

EXCEPTIONS

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

LEA MÁRQUEZ PETERSON, Chairwoman
SANDRA D. KENNEDY
JUSTIN OLSON
ANNA TOVAR
JIM O'CONNOR

IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR A HEARING TO
DETERMINE THE FAIR VALUE OF THE
UTILITY PROPERTY OF THE COMPANY
FOR RATEMAKING PURPOSES, TO FIX A
JUST AND REASONABLE RATE OF
RETURN THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP
SUCH RETURN.

DOCKET NO. E-01345A-19-0236

**ARIZONA PUBLIC SERVICE
COMPANY'S EXCEPTIONS TO
THE RECOMMENDED
CONFORMING ORDER DATED
DECEMBER 20, 2021**

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1 **I. INTRODUCTION**

2 The December 20, 2021 Recommended Conforming Order (RCO) provides that
3 Arizona Public Service Company (APS or Company) “shall, by April 1, 2022, complete
4 its implementation of the new [4 p.m. to 7 p.m. on-peak time-of-use (TOU)] hours
5 required by Decision No. 78317.”¹ The proposed April deadline does not allow
6 sufficient time for implementation.

7 The new TOU on-peak period implementation process requires about ten months
8 to complete. The ten-month timeframe reflects the technical development, testing, and
9 implementation required to change the on-peak hours across the Company’s IT systems
10 and reprogram approximately 1.15 million residential meters. This effort is inclusive of
11 requirements gathering, system configuration, and application code changes across
12 seven interdependent systems and over 50 critical system integrations. This is a
13 significant effort that APS is working to implement effectively and efficiently. All
14 prerequisite system changes must be completed before APS can begin reprogramming
15 meters and migrating customers to the new peak hours. To ensure key systems remain
16 operationally stable and these system changes do not negatively impact customer billing,
17 all work must be correctly coordinated, in the right order, and rigorously tested with
18 minimal room for schedule variances or delays.

19 In their entirety, this work on the seven key systems *must* be completed before
20 the meters can be reprogrammed or customers migrated. This is a hard dependency,
21 which means the first set of activities must be finished before other work can begin,
22 making it impossible to condense the schedule. Condensing the schedule further would
23 require intentionally bypassing key software development best practices, such as testing,
24 which would leave the systems prone to customer-impacting errors. In sum, this
25 implementation process requires ten months.

26
27
28 ¹ <https://docket.images.azcc.gov/E000017097.pdf?i=1640022679201>, RCO at 6,
Lines 13-14.

1 APS is committed to implementing the new on-peak hours as soon as
2 technologically feasible while keeping the Arizona Corporation Commission
3 (Commission) informed about the progress of the implementation. The Company has
4 attached a summary of the implementation process (Attachment A) and will provide
5 Staff with a copy of its confidential detailed project plan.² APS would also be willing to
6 provide the Commission with an every-other-week summary of implementation status as
7 it works to implement the new on-peak hours.

8 For the reasons set forth herein, APS requests that the Commission not adopt the
9 RCO because its implementation deadline of April 1, 2022³ is neither reasonable nor
10 technologically feasible, and the RCO's "refund" provisions⁴ are punitive and improper.
11 Instead, the Commission could direct APS to provide every-other-week updates to the
12 Commission on the status of the implementation process and complete the
13 implementation of the new on-peak period by September 1, 2022.

14 **II. ARGUMENT**

15 **A. APS Repeatedly Advised the Commission the Company Requires Ten** 16 **Months To Implement the New TOU Rates.**

17 APS notified the Commission that it will take about ten months to implement the
18 new 4 p.m. to 7 p.m. on-peak window for TOU rates—a fact the Commission itself
19 expressly acknowledged in a press release after voting to approve Decision No. 78317
20 (Nov. 9, 2021) (Decision).⁵

21 Specifically, on September 24, 2021, the Company docketed a letter in response
22 to Chairwoman Márquez Peterson's request explaining that APS needed ten months to
23 implement a new on-peak window. The Company explained: "Changing the on-peak
24 period for TOU and demand rates will have practical implications, including new

25 ² Confidentiality of the detailed implementation process is necessary to protect the
26 cybersecurity of APS's systems.

27 ³ RCO at 6, Line 13.

28 ⁴ RCO at 6, Lines 15-23.

⁵ <https://www.azcc.gov/news/2021/11/03/arizona-corporation-commission-november-open-meeting-highlights>.

customer communications and rate education efforts, training customer care advisors, and reprogramming the Company's 1.15 million meters. This process will cost about \$5.2 million and take about ten months post-Decision to implement. Additionally, when a rate design is changed by modifying the on-peak period, the Rate Comparison Tool must be taken down and *pro forma* bill messaging paused to collect customer-specific energy-use data under the new rate design.”⁶ Prior to adoption of the Decision, no party objected to this timeline or explanation of the implementation requirements.

APS also discussed its ten-month estimate with Commissioners during the October 2021 Rate Case Open Meetings. Table 1 below provides excerpts where APS discussed the ten-month implementation deadline with the Commission.

Table 1: Excerpts from Open Meeting Transcripts

Date	Statements Regarding Ten Months
October 5, 2021	Mr. Guldner explained to the Commission during the Rate Case Special Open Meeting that a change in TOU hours would require “about 10 months after a decision for us to get the rate design changed, to get the programming in place, to begin pushing out the meters, and then to work on the customer outreach to make sure they are aware of the change that we would be making.”
October 27, 2021	At a subsequent Open Meeting, Ms. Lockwood noted again, “I did want to remind the Commissioners that any change to the time of use hours is going to take us approximately 10 months to implement. So I just wanted to make sure that was clear.”
November 2, 2021	And at another Open Meeting, Ms. Lockwood discussed implementation of TOU hours, stating, “[T]he new time of use rates will not be able to go into effect for approximately 10 months in total, and that’s because we do have

⁶ See Attachment B at 9. (As discussed above and in further detail in the implementation plan, the implementation process is broader than merely reprogramming meters. It requires updating numerous, key, interconnected systems, including, but not limited to, the billing system, AMI systems, the Meter Data Management System, aps.com, the mobile app, DataMart, etc., to provide appropriate service for APS customers); see also <https://docket.images.azcc.gov/E000015845.pdf?i=1638562420096>.

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	to do system programming and metering programming. The rate decrease, the change to the rate, will go into effect on the effective date of the order. And we had requested that be at least 21 days, so we're looking at the first billing cycle or December 1st. So that will go into effect, but the new time of use rates and that rate -- the customers will not be transitioned to that until approximately 10 months."
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Once again, no party objected to the Company's ten-month implementation timeframe. *See also* Attachment B, which contains supporting material and a compilation of each time APS informed the Commission that a change to the TOU hours would require the ten-month implementation process.

On November 3, 2021, the Commission publicly acknowledged—in its own news release about the Decision—that the implementation would take ten months, stating: "The new rates will become effective on December 1, 2021. However, it will take APS 10 months to implement the new on-peak TOU schedules."⁷

On December 3, 2021,⁸ APS provided a letter to Commissioners explaining that, "APS has been moving forward with implementation of the Decision consistent with the understanding that the Commission is aware that new residential TOU hours could not be completed by December 1, 2021, but will be completed within approximately 10 months. While the Decision does not expressly acknowledge this necessary extension of time to implement the new TOU hours, the Company notified the Commission of the time required to update billing systems and reprogram meters to accommodate this change both in writing and during Open Meeting discussions." In that letter, APS explained further that, "Chairwoman Márquez Peterson filed her letter of September 13, 2021 requesting information and analysis regarding a move to a 4 p.m. to 7 p.m. on-peak period for residential customers. APS responded that implementation of this change

⁷ *See* n.5 *supra*.

⁸ *See* Attachment B at 20; APS letter to Commissioners on December 3, 2021 regarding implementation of new residential TOU hours.

1 would be a lengthy, far-reaching effort and that new TOU hours would require about ten
2 months to fully implement. In APS's response to the Chairwoman's request, APS noted
3 that '[t]his process will cost about \$5.2 million and take about ten months post-Decision
4 to implement.' Additionally, throughout discussions on this topic in Open Meeting, APS
5 continued to highlight that implementation of new TOU hours would not be feasible
6 immediately and, instead, would take about ten months to implement." In that letter, the
7 Company explained "APS expects to begin transitioning customers to these rate
8 schedules approximately 7 months after the date of the Decision, and complete the
9 transition within 10 months as communicated to the Commission."

10 During the December 16, 2021 Open Meeting, the Commission and APS
11 discussed the information that the Company had provided during the Rate Case hearing
12 regarding the timeframe necessary to implement aspects of new TOU rates, specifically
13 APS-55 (Attachment C). Questions were raised as to whether the Company had
14 previously indicated that the implementation would take only three to four months. To
15 the contrary, APS-55 is consistent with the full ten-month implementation timeline
16 necessary to adopt new TOU rates, but only presents part of the process. Specifically,
17 APS-55 accurately refers to the time necessary to reprogram the meters and migrate
18 customers to the new hours, but does not reflect the total implementation timeframe,
19 including the system and software programming and testing that is a prerequisite to the
20 meter reprogramming and rollout to customers.⁹ APS-55 states: "APS's rate comparison
21 tool and pro forma billing feature would have to be taken offline for at least 3 months,
22 and preferably closer to 12 months, to allow actual customer usage to accumulate.
23 Reprogramming meters would require a 3- to 4-month transition period to the new time-

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25 ⁹ The Company created APS-55 in response to a request by ALJ Harpring for a visual
26 representation of the different bill impacts that would occur if the TOU period had been
27 4 p.m. to 7 p.m. as opposed to 3 p.m. to 8 p.m. Tr. vol. X (Jan. 28, 2021) at 2252
28 (Harpring). Consistent with the ALJ's request, the focus of APS-55 was on customer bill
impacts. APS added bullets at the end of that exhibit to highlight that a change to the on-
peak hours would have impacts on customers that went beyond the impact to customers'
bill, but the exhibit was not intended to address the entire implementation process for a
new on-peak period.

1 of-use hours. Misalignment of TOU hours with system peak will lead to additional
2 resource costs.”

3 In the context of the Rate Case hearing, APS-55 was principally intended to
4 address questions about bill impacts at a point when numerous, variable TOU proposals
5 were still under consideration (*see* below, Part II.B.). As such, the Company never
6 presented nor conveyed APS-55 as a complete timeline for implementation of a 4 p.m.
7 to 7 p.m. on-peak window.

8 Thus, as far back as February 2021, during the Rate Case hearing and at a time
9 when parties were suggesting many different TOU hour proposals (*see* Section B
10 below), APS made clear that the entire implementation process of new TOU rates would
11 include taking down the Rate Comparison Tool and *pro forma* billing, and would require
12 substantial time to implement, including the three to four months it would take to
13 reprogram meters. No party disputed APS-55 during the hearing.

14 As APS previously advised the Commission, it is technically impossible to fully
15 implement the new on-peak period by either December 1, 2021 or by April 1, 2022. Ten
16 months is the minimum length of time required to implement the new on-peak period.
17 For these reasons, APS seeks an exception from the RCO at 6, Lines 12-14, and requests
18 that the April 1, 2022 date be replaced with September 1, 2022, to provide the ten
19 months necessary to implement the new on-peak TOU hours.

20 **B. APS Began Preparations For the New On-Peak Period As Soon As the**
21 **Commission Voted To Make that Change; The Settlement Reached By**
22 **the Parties In the Last Rate Case Allowed Additional Time For**
Implementation Pre-Decision.

23 It is unreasonable to expect APS to have begun preparations for a new on-peak
24 period prior to the Commission’s vote approving the Rate Case Decision. In a fully
25 litigated proceeding such as this, in which a record number of parties presented diverse
26 policy recommendations on complex rate design issues, APS could not reasonably have
27 foretold how the Commission would ultimately decide the TOU issue. And, for APS to
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1 have prematurely commenced implementation of any of the parties' proposals, would
2 have created unnecessary risks of wasting resources.

3 The Decision itself acknowledged that "[r]easonable minds can and do differ
4 concerning the appropriateness of APS's on-peak period,"¹⁰ which is reflected in the
5 three distinct positions, broadly characterized, that parties to the Rate Case
6 recommended. Staff, SWEEP, and WRA supported a 4 p.m. to 7 p.m. on-peak period.
7 RUCO, AARP, and APS, by contrast, did not propose changes to the 3 p.m. to 8 p.m.
8 on-peak period. Moreover, RUCO, which represents customer interests, explained that it
9 had spent a lot of time looking at the shape of loads and determined that 3 p.m. to 8 p.m.
10 sent the right signals to customers.¹¹ Finally, SEIA/AriSEIA advocated for the TOU
11 hours to be changed to 2 p.m. to 7 p.m.

12 Even the above disagreement over the appropriate peak period for TOU rates
13 vastly understates the complexity of the TOU policy decision the Commission
14 confronted—making any prediction of the final outcome impossible. Among the parties,
15 the evidence in the record illustrated numerous points of disagreement. For instance,
16 while Staff aligned with WRA and SWEEP to support a shortened 4 p.m. to 7 p.m. on-
17 peak period, it rejected all "super off-peak" rates.¹² WRA and SWEEP, however,
18 supported the use of a "super off-peak" rate and time period, but endorsed deploying
19 them at night from 11 p.m. to 5 a.m. to encourage EV charging in addition to the current
20 10 a.m. to 3 p.m. winter-only super off-peak period and rate.¹³ WRA and SWEEP also
21 substantially diverged from the Staff position by endorsing an approach that would
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23 ¹⁰ Decision at 350.

24 ¹¹ See Tr. vol. XX (Feb. 19, 2021) at 4195-4198 (Krueger cross of Radigan). RUCO
25 supported keeping the 3 p.m. to 8 p.m. on-peak period because that period supports
26 customer conservation during the most expensive hours during the day; shortening the
27 on-peak period to 4 p.m. to 7 p.m. could result in very large bill impacts for both on- and
off-peak periods; this, in turn, would reduce the price differential between on- and off-
peak, which is contrary to the goal of encouraging more customer-owned technologies
and the support of conservation signals. See RUCO-3 (Radigan Surrebuttal) at 21-23.

¹² Staff-5 (Dismukes Direct) at 46.

¹³ WRA-1 (Batz Direct) at 22-23.

1 default *all* residential APS customers to TOU rates.¹⁴ The SEIA/AriSEIA position
2 introduced further variability into the mix. Not only did these parties advocate for a
3 unique five-hour, 2 p.m. to 7 p.m. peak period, they proposed shortening the summer
4 months to June through September (as opposed to May through October) and introduced
5 variations in the allocation between on-peak and off-peak energy charges.¹⁵ For a
6 summary of the varying positions of the Rate Case parties as to TOU rate design, which
7 demonstrates the full scope of options arising from this litigated proceeding, please refer
8 to Attachment D. The variation among these positions—not just the specific TOU
9 period, but also on-peak versus off-peak charge allocations, summer-month
10 designations, and the design of super off-peak periods, if any—reflects the wide array of
11 options and variables for the Commission’s consideration in reaching a final Rate Case
12 decision.

13 On August 2, 2021, after considering the evidence in the record, the ALJ issued
14 the ROO, which maintained the 3 p.m. to 8 p.m. on-peak period. The ALJ reasoned that
15 that period:

16 is [] working . . . even on APS’s highest demand days. Because APS can
17 only reasonably expect to have more solar installed on its system in the
18 coming years . . . APS’s net peak load [is] shifting later in the day rather
19 than earlier, and it would be disadvantageous (to everyone) for APS to
20 have to build peaking plant or to purchase market power in those high[er]-
21 cost later evening hours, it is appropriate and in the public interest to
maintain APS’s 3 p.m. to 8 p.m. on-peak period. This has the added
advantages of not necessitating a reworking of the TOU-E tariff to make
up for the lost revenue that would otherwise result from the shorter on-
peak period, not causing unforeseeable bill impacts, and not making
historic usage data obsolete for use in comparing rates.¹⁶

22 The ROO is also part of the record although not legally binding. Nonetheless, by
23 strongly endorsing the 3 p.m. to 8 p.m. on-peak rate design, the ROO provided no basis
24 for APS to begin implementing any changes to the Company’s TOU hours.

25 Only once the Chairwoman began to signal that she would offer an amendment
26 rejecting the ROO’s endorsement of the 3 p.m. to 8 p.m. on-peak period was there a

27 ¹⁴ WRA-1 (Batz Direct) at 14.

28 ¹⁵ SEIA-1 (Lucas Direct) at 71.

¹⁶ ROO at 349.

1 basis for parties to believe that the Rate Case outcome might deviate from the ROO. In
2 responding to Chairwoman Márquez Peterson's September 13, 2021 letter of inquiry,
3 which sought information from the parties about implementing a 4 p.m. to 7 p.m. on-
4 peak window, APS clearly communicated the necessity of a ten-month implementation
5 window on September 24, 2021.¹⁷ At this point, the Commission was aware of the
6 implementation timeframe, and no party to the Rate Case raised any objections about it
7 until weeks after Decision No. 78317 was adopted.

8 Nonetheless, in offering amendments in response to the information provided by
9 APS and other parties, the Commissioners offered conflicting and different options,
10 providing no clear indication of which path forward the Commission would adopt. For
11 example, Chairwoman Márquez Peterson and Commissioner Kennedy both proposed
12 competing but differing amendments shortening the on-peak period to between 4 p.m.
13 and 7 p.m.¹⁸ The final vote from the Commission approving the entire ROO, as
14 amended, did not occur until November 2, 2021. Between those two dates (*i.e.*, the
15 offering of Commissioner TOU amendments on September 28 and 29, 2021 and the
16 Commission's final vote), the APS on-peak weekday window was still subject to change
17 through additional Commissioner amendments. Given the variations between the ROO
18 and these two proposals, APS would have had no way to know which approach, if any,
19 the Commission would finally choose to adopt.

20 In contrast, in APS's prior rate case, most parties (approximately 29 out of 39
21 parties) executed a Settlement Agreement on March 27, 2017, agreeing to the
22 implementation of new TOU rates. The Commission did not approve and enter its final
23 decision (Decision No. 76295) until August 18, 2017. During this interim period, APS
24 began the planning for implementation of the new rates. And even though Decision
25 No. 76295 made the new rates "effective," it adopted a lengthy transition period for
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27 ¹⁷ See Attachment B at 4; *see also* Section II.A., *supra*.

28 ¹⁸ See <https://docket.images.azcc.gov/E000015905.pdf?i=1633626934237>;
<https://docket.images.azcc.gov/E000015882.pdf?i=1632866178714>.

1 customers, allowing them to remain on their existing rates until implementation of a
2 mandatory transition period to the new rates, a period which did not begin until February
3 2018 (11 months after the Settlement Agreement) and ended May 1, 2018 (9 months
4 after Decision No. 76295). Thus, APS had extensive time for fulsome implementation,
5 including nine months post-decision to complete the migration of its customers to new
6 rates. By comparison, in the present case, APS did not know what TOU rate would be
7 adopted by the Commission until it voted to adopt its final Decision, on November 2,
8 2021, in a case where many elements, including and affecting TOU rates, were in
9 dispute by many more parties.

10 **C. Once the New On-Peak Period Has Been Implemented, Customer**
11 **Billing Data Will Be Gathered To Support the Rate Comparison Tool**
and Pro Forma Accuracy.

12 As described above, it will take until September 1, 2022 to fully implement the
13 new residential on-peak period. Customers will be migrated to the new on-peak window
14 in groups on a rolling basis during the implementation period. Once a customer has
15 access to the new on-peak window, three months of new customer billing history must
16 be accumulated to support the Rate Comparison Tool's calculations and the *pro forma*
17 notices on the monthly bill.

18 The Rate Comparison Tool on aps.com and the *pro forma* messaging on each
19 customer's monthly bill are important tools for customers that APS put in place at the
20 direction of the Commission. The Rate Comparison Tool provides both a monthly
21 comparison and a cumulative comparison, considering at least three and up to 12 months
22 of historical billing data (based on the customer's length of service at that site), along
23 with rates, applicable taxes, eligible discounts, and adjustors approved by the
24 Commission. The Rate Comparison Tool applies all of these factors to the rate plans
25 with similar TOU hours for which each customer is eligible. The tool then creates a
26 comparison of their electric costs on those rate plans to calculate what the customer's
27 Most Economical Plan (MEP) would have been during the relevant prior period. The
28 Rate Comparison Tool does not make prospective assumptions for any customer

1 behavior changes or changes in energy usage—it is based solely on actual historical
2 billing data. The Rate Comparison Tool’s MEP calculation is then used to provide the
3 *pro forma* bill messaging.

4 Changing the on-peak period for TOU and demand rates has practical
5 implications. As Jeff Guldner explained in the October 5, 2021 Special Open Meeting:

6 [B]ecause we are now changing the rate design, we would need to take
7 the rate comparison tool and *pro forma* billing down because, again, I would
8 be concerned about telling customers here is the rate you should change to
9 knowing that we are going to be changing to a different rate design for which
we don’t have the billing information or the data when we shorten that time-
of-use window.

10 So we would take the rate design -- I am sorry, the rate comparison
11 tool and the *pro forma* billing down during the process of the rate migration,
12 and then probably three to six months after we make the rate migration we
13 would be able to reinstitute the rate comparison tool and the *pro forma*
billing. But we would need to establish a history with the customers before
we made that change.

14 So it is a fairly complicated process.¹⁹

15 Rate design changes are only captured on a going forward basis for customers.
16 When a rate design is changed by modifying the on-peak period, the Rate Comparison
17 Tool must be taken down and *pro forma* bill messaging paused to collect customer-
18 specific energy-use data under the new rate design. When a rate design is changed, the
19 MEP shown on the Rate Comparison Tool and *pro forma* are calculated at the same time
20 as the customer’s billing to ensure that all billing factors are captured.

21 APS collects three months of customer data before providing a MEP because a
22 customer’s energy use may vary widely month-to-month and a quarter of a year of data
23 provides a reasonable basis to determine a customer’s general pattern in energy
24 consumption. This customer-specific usage data is then used to calculate what each
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27 ¹⁹ Tr. vol. II (Oct. 5, 2021) at 483-784 (Guldner); *see also* Attachment E for a
28 compilation of each time APS informed the Commission that a change to the TOU hours
would require the Rate Comparison Tool and *pro forma* billing to be taken down.

1 customer would have paid on each available rate plan and to identify each customer's
2 MEP based on that customer's historical billing data.

3 APS is committed to providing customers with correct MEP information and is
4 focused on doing so. On multiple occasions, Commissioners have expressed the
5 overriding importance of getting this right²⁰ and APS is working to ensure the Rate
6 Comparison Tool works correctly and provides accurate MEP information with the
7 implementation of the new on-peak period.

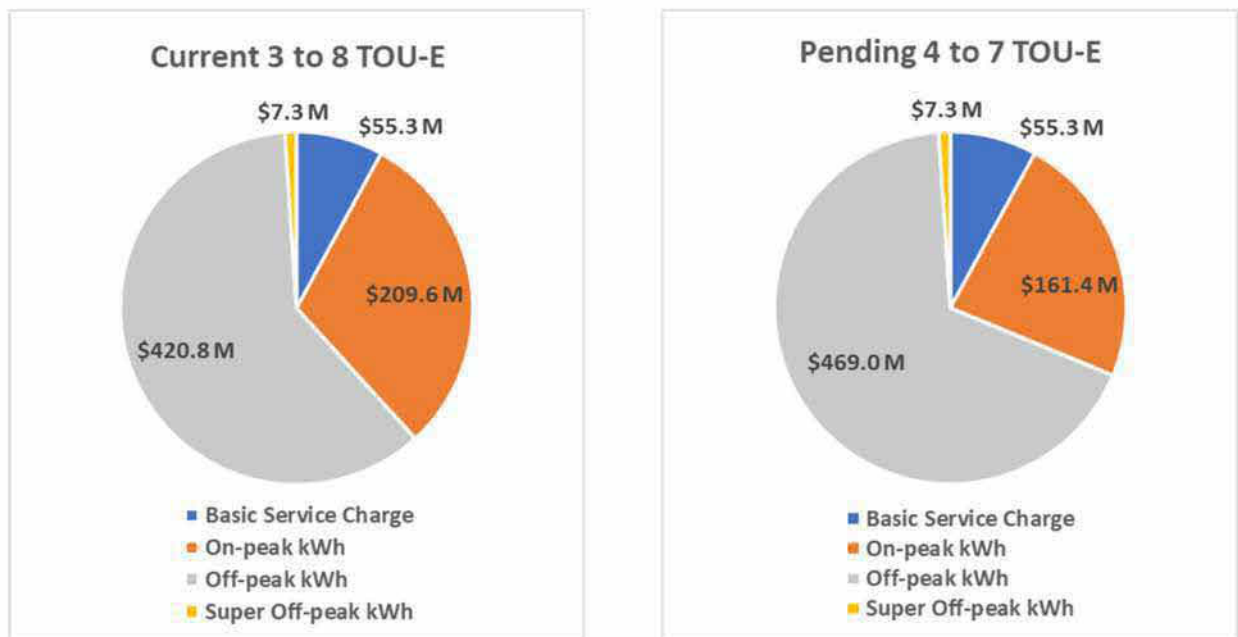
8 **D. APS Applied the Commission-Approved Lower Revenue Requirement**
9 **For Residential Customers To TOU Rates On December 1, 2021 As**
10 **Required By the Decision.**

11 On December 1, 2021, APS applied the new lower revenue requirement and the
12 new rate names ordered by the Decision to its TOU and TOU Demand rates, copies of
13 which are attached as Attachment F.²¹ Thus, while working to implement the new,
14 shorter TOU window, the Company has complied with the Decision's revenue
15 requirement and rate naming conventions (with the currently in-place TOU hours).

16 ²⁰ See Docket No. E-01345A-19-0003, Olson letter (Nov. 15, 2019) ("It is vitally
17 important that APS customers are given accurate information to help them decide if they
18 are on their most economical rate plan."); Docket No. E-01345A-19-0003, Open Mtg Tr.
19 (Dec. 11, 2019) at 186 (Dunn) ("My biggest concern is an accurate rate tool . . ."); *Id.* at
20 222 (Olson) ("But I don't think that we should necessarily rush to move this forward and
21 make it public facing until we are confident that in fact even that .1 percent are getting
22 accurate information."); Docket No. E-01345A-19-0003, Open Mtg Tr. (Feb. 4, 2020) at
23 33 (Olson) ("I think that's great to see that these customers are being empowered with
24 this information to choose the plan that is the best fit for them based on accurate
25 information."); Docket No. E-01345A-19-0003, Open Mtg Tr. (May 5, 2020) at 49
26 (Olson) ("We've got to ensure that the customers have the most available -- most
27 accurate information available to them so that they can make the determination for
28 themselves of what is in their best interests."); Tr. vol. IX (Jan. 27, 2021) at 2033-2035
(ALJ Harpring on behalf of Kennedy, Harpring Examination of Whiting) (Harpring:
"How are you ensuring [the Rate Comparison Tool] is accurate? What policies do you
have in place to capture flaws, bugs, and issues that occur?" . . . Whiting: "[W]hat I
would say is the organization has set up processes and procedures for regularly
monitoring and checking and ensuring its accuracy, and Ms. Hobbick does have the
details on that.").

²¹ For ease of reference, only the November 30, 2021 cover letter and the rate schedules
discussed herein are included in this Attachment. APS filed two sets of TOU residential
rate schedules: (1) current rate schedules with the current 3 p.m. to 8 p.m. on-peak
period; and (2) pending rate schedules reflecting the new 4 p.m. to 7 p.m. on-peak
period, which will become effective when the Company reprograms the necessary
systems and meters to accurately bill customers using the new on-peak hours.

As previously discussed with the Commission, the change from the current 3 p.m. to 8 p.m. TOU period to the new 4 p.m. to 7 p.m. period is revenue neutral. This means that both sets of rates are designed to recover the same revenue requirements by applying the Test Year billing determinants to each set of rates. The pie charts below demonstrate that both sets of TOU-E rates are designed to recover \$693 million in unadjusted revenues.²²



The pie charts also highlight how the revenue requirements were spread between the various rate elements (*i.e.*, on-peak and off-peak charges, the Basic Service Charge, and the super off-peak charge). This can also be observed by looking at the tariffs in Attachment F. For example, the summer on-peak energy charge under the current 3 p.m. to 8 p.m. TOU rate is \$0.23593 per kWh. Under the pending 4 p.m. to 7 p.m. TOU rate, the summer on-peak energy charge is \$0.29780. Similarly, the winter on-peak energy charges are \$0.22386 under 3 p.m. to 8 p.m. and increase to \$0.28185 under 4 p.m. to 7 p.m. Additionally, the Commission’s Decision required that APS “make up the revenue difference resulting from the changes to the on-peak TOU period through 25%

²² Similarly, both sets of R-3 rates are designed to recover the same amount of unadjusted revenues.

1 off-peak energy charges and 75% on-peak energy charges.”²³ Thus, the rates are
2 designed to collect the same amount of Commission-authorized revenue irrespective of
3 when the new TOU hours are implemented. It is important to recognize that the TOU
4 changes required by the Decision do not necessarily result in customers saving money..

5 Individual customer impacts will vary. As APS explained in its September 24,
6 2021 response to Chairwoman Márquez Peterson and describing APS-55:

7 Shortening the on-peak period will significantly change bill impacts for
8 customers. Proposals to significantly shorten the on-peak hours would
9 require either a substantial increase to the on-peak rate to recover the same
10 amount of revenue during a shorter period of time or necessitate an increase
11 in the off-peak rates to cover the revenue shortfall. Either of these options
12 will greatly change the bill impacts to customers and make them more
disparate across the residential class than the proportionate increase proposed
by APS. . . . Additionally, reducing the rate differential would dilute the
conservation signals.

13 Put simply, while the revenue requirement and APS’s collections remain the
14 same, the change in TOU hours causes some customers to pay more, while others will
15 pay less. Table 2 below illustrates that using annual Test Year data, 262,768 customers
16 on TOU and demand rates will save money on the new 4 p.m. to 7 p.m. TOU period and
17 273,894 customers will pay more under the new TOU period when compared to the
18 3 p.m. to 8 p.m. rates implemented on December 1, 2021. This annual differential
19 applies irrespective of when the new hours are implemented.

20 **Table 2²⁴**

	Customers	Revenues
21 Bill Decrease	262,768	\$ (4,367,842)
22 Bill Increase	273,894	\$ 4,367,859

23 ²³ Decision at 439.

24 ²⁴ See Attachment G for a more detailed bin analysis. The bin analysis compares the
25 3 p.m. to 8 p.m. transition rates implemented on December 1, 2021 to the 4 p.m.
26 to 7 p.m. rates that will be implemented upon successful completion of meter
27 reprogramming and system integration, both of which were designed to achieve the
28 same revenue requirement approved in Decision No. 78317. These results are based on
Test Year billing determinants and TOU-E and R-3 rate adoption levels.

1 **E. Penalizing A Utility For Failing To Meet An Impossible Deadline Is**
2 **Unjust And Unreasonable.**

3 The RCO would penalize APS for not being able to implement the new on-peak
4 period by December 1, 2021, 22 days after APS was ordered to do so. This, despite
5 APS's transparency and APS's unrefuted evidence that it requires ten months to
6 implement this change. Specifically, the RCO recommends ordering APS to refund
7 customers the difference between the amount the customer is billed under the current
8 on-peak period of 3 p.m. to 8 p.m. and what customers would have paid using the new
9 on-peak period between December 1, 2021 and March 31, 2022, plus interest at a rate of
10 6% annually.²⁵

11 The RCO's recommendation is factually and legally deficient. As demonstrated
12 in the prior section (*see* above, Part II.D.), APS applied the Commission-approved
13 reduced revenue requirement to the residential TOU rates and the change to the 4 p.m. to
14 7 p.m. on-peak window is designed to be revenue neutral. Given this demonstrated
15 revenue neutrality, there is simply no basis to support refunding monies to customers.
16 Ordering a refund under these circumstances is inherently punitive, because it results in
17 rates that would not permit the Company to recover its revenue requirement, would be
18 retroactive ratemaking, and would violate the constitutional prohibition against takings.

19 Moreover, it is arbitrary and unlawful to impose on APS an impossible timeframe
20 to complete a task and then penalize the Company for being unable to meet that
21 deadline, especially when APS has repeatedly informed the Commission that
22 implementing the new TOU hours will take ten months. For these reasons, APS seeks an
23 exception from the RCO at 6, Lines 15-23, and requests that those lines be stricken.

24 **III. CONCLUSION**

25 In sum, APS requests that the Commission not adopt the RCO. The Company
26 requires at least ten months (until September 1, 2022) to implement the new TOU hours.
27 In addition, because they function as an illegal penalty, the refund provisions of the
28

²⁵ RCO at 6.

1 RCO should be rejected as well. As an alternative to the RCO, the Commission could
2 direct APS to provide every-other-week updates to the Commission and complete the
3 implementation of the new TOU hours by September 1, 2022. If the Commission adopts
4 the RCO's requirements, the Company will diligently work to implement the new TOU
5 hours; however, APS will likely seek appellate review of that decision.

6
7 RESPECTFULLY SUBMITTED this 30th day of December 2021.

8
9 By: /s/ Melissa M. Krueger

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16 this 30th day of December 2021, with:

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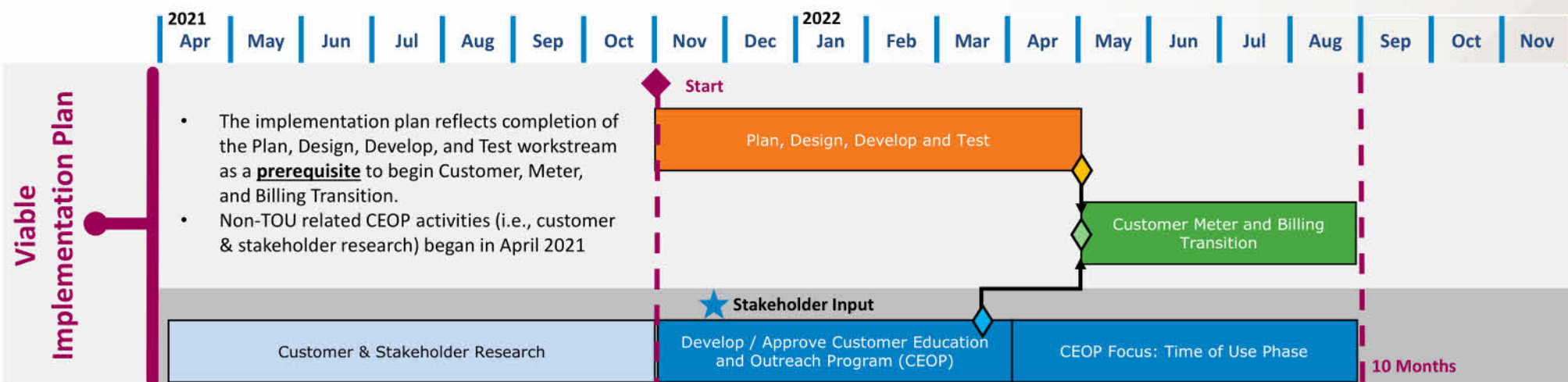
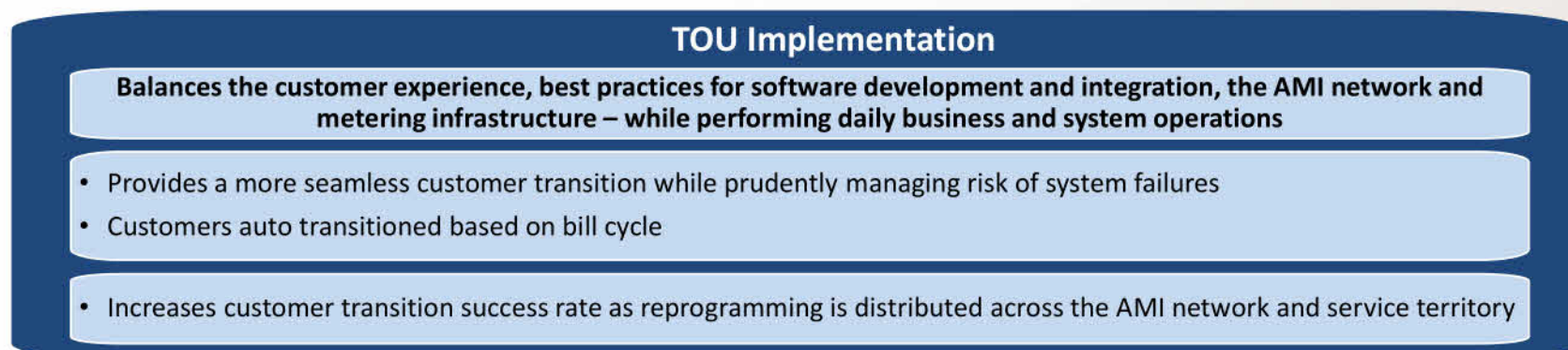
ATTACHMENT A

4-7 p.m. Implementation Plan

- Overview of Viable Implementation Plan
- Systems Impacted by Changes
- Project Plan Summary
- Barriers to Acceleration

Viable Implementation Plan for 4-7 p.m. Time of Use

The viable implementation plan represents the responsible approach to perform system changes enabling the transition of customers and meters to the new TOU hours while ensuring accuracy of customer and billing information and providing a good customer experience. In recognition of Commission and customer feedback, we looked for other viable scenarios to accelerate the implementation timeline – however, the barriers and risks do not provide the ability to do so.



Systems Impacted by Time of Use Implementation

The Time of Use implementation requires technical changes across many interdependent systems each serving a different business function. To ensure a seamless customer experience, accuracy in customer billing, and successful presentation of customer data usage – **thorough planning, validation and testing are critical to each change in the process.**

Plan, Design, Develop and Test – 6 Months

7 key systems / 50+ integration touch points / 1.2k+ test cases



APS.com



Bill



Mobile App



**Meter Data
Management
(MDM) System**



**Customer Care &
Billing System
(CC&B)**



DataMart



**Automated
Metering
Infrastructure**

Customer Meter and Billing Transition – 4 Months

Approximately 1.15 million meters to reprogram / 15k+ truck rolls

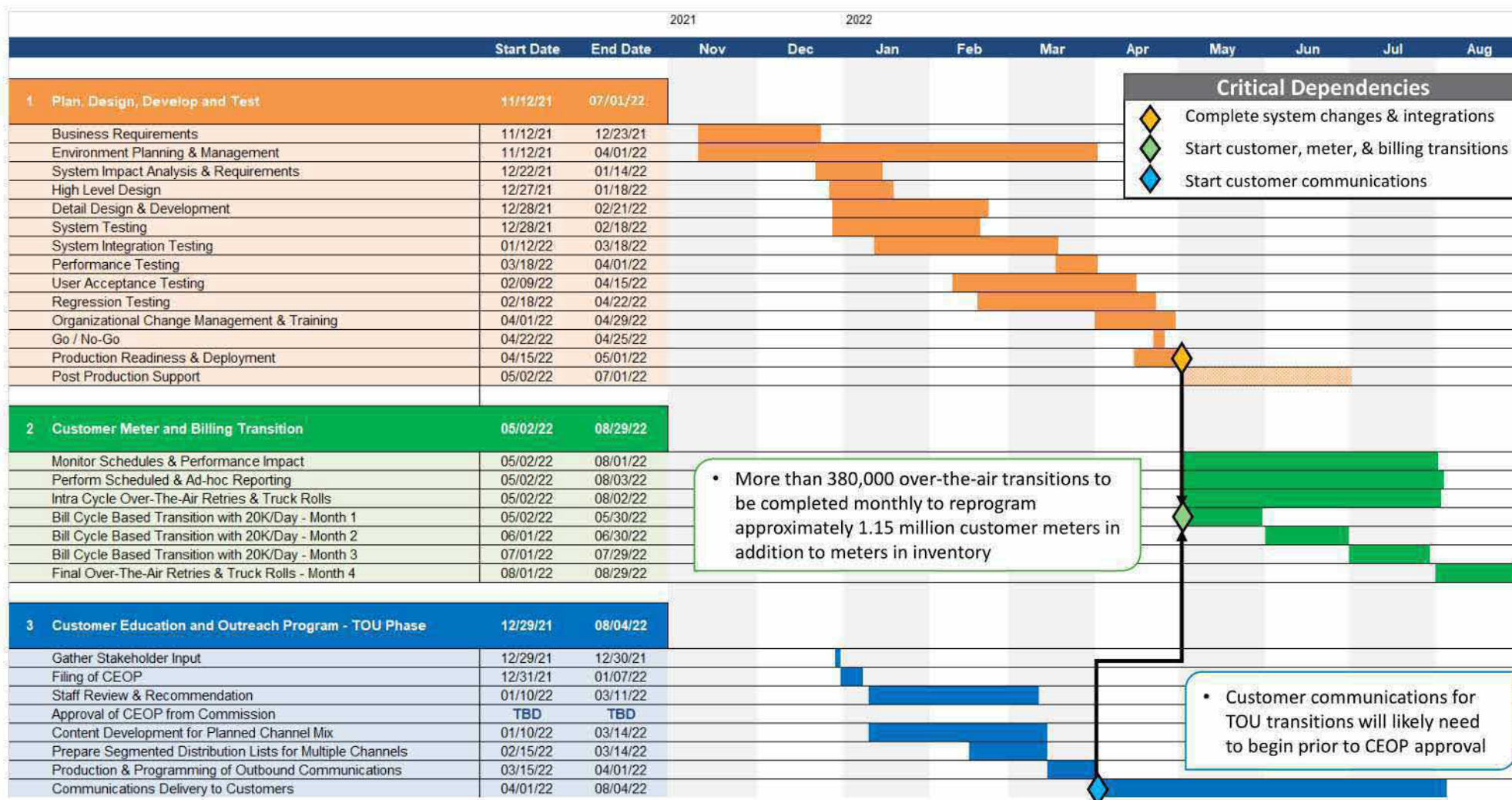
Changes must be made on these systems **before** the schedule changes can be made on the customer's meter – leaving no option to condense timeline



**Customer
Meters**



Time of Use Implementation Project Plan Summary



Barriers to Accelerate TOU Implementation

In addition to workstream prerequisites impeding our ability to condense the implementation timeline, other barriers exist preventing delivery of the ACC Recommended Order to accelerate implementation.

Plan, Design, Develop and Test

- **Best practices for software development define key activities to produce high quality software effectively and efficiently. To compress these activities arbitrarily would intentionally bypass quality controls and disregards lessons learned from prior implementations – additionally resulting in a negative customer experience due to impact of errors and inaccurate information (i.e., bills, aps.com).**
- Compromises planning activities including requirements documentation and system analysis – negatively impacting key outputs and all subsequent activities
- Places design and development activities at risk due to complexity of multiple interdependent systems with over 50 integration points
- Condensed testing activities may result in missed defects and deficiencies

Customer Meter and Billing Transition

- **Introduces significant risk of potentially overloading system capacity on the AMI network if the volume of meter reprograms per day is increased.**
- Inadequate time for testing, validating and peer checking new meter programs and schedules
- Reduces time needed for manual reprogramming via field visits if there are over-the-air failures or to acquire physical access for non-AMI customers
- Some over-the-air reprogramming is dependent on a separate parallel project which will not be complete until February 2022
- Normal meter operations such as manual meter reading and regulatory-mandated meter testing will be delayed due to redeploying resources to reprogram meters

CEOP – TOU Phase

- **Change in TOU hours is a focus area for the CEOP, with APS Customer Advisory Board feedback showing most customers prefer one month's notice of this change**
- Final order gives Staff into March to issue a review and recommendation of APS' filed CEOP, with Commission approval to follow
- Customers to begin receiving communications on TOU change by April 1, assuming customer meter and billing transition begins in May
- Accelerating TOU implementation further risks CEOP compliance and effective implementation (communications on the TOU change would have to begin before Staff's review and recommendation deadline and subsequent Commission approval)

ATTACHMENT B

ATTACHMENT B

COMPILATION OF STATEMENTS TO THE COMMISSION RE: THE 10-MONTH
TIME-OF-USE IMPLEMENTATION PERIOD

DATE	STATEMENT	CITATION
September 24, 2021	“Changing the on-peak period for TOU and demand rates will have practical implications, including new customer communications and rate education efforts, training customer care advisors, and reprogramming the Company’s 1.15 million meters. This process will cost about \$5.2 million and take about ten months post-Decision to implement. Additionally, when a rate design is changed by modifying the on-peak period, the Rate Comparison Tool must be taken down and pro forma bill messaging paused to collect customer-specific energy-use data under the new rate design.”	APS Response to September 13, 2021 letter from Chairwoman Márquez Peterson at 6
October 5, 2021	“... about 10 months after a decision for us to get the rate design changed, to get the programming in place, to begin pushing out the meters, and then to work on the customer outreach to make sure they are aware of the change that we would be making.”	Special Open Meeting Transcript Volume II at 483 (Guldner)
October 27, 2021	“But I did want to remind the Commissioners that any change to the time of use hours is going to take us approximately 10 months to implement. So I just wanted to make sure that was clear.”	Open Meeting Transcript Volume V at 1010-1011 (Lockwood)
November 2, 2021	“[T]he new time of use rates will not be able to go into effect for approximately 10 months in total, and that’s because we do have to do system programming and metering programming. The rate decrease, the change to the rate, will go into effect on the effective date of the order. And we had requested that be at least 21 days, so we’re looking at the first billing cycle or December 1st. So that will go into effect, but the new time of use rates and that rate -- the customers will not be transitioned to that until approximately 10 months.”	Open Meeting Transcript Volume VI at 1075-1076 (Lockwood)

ATTACHMENT B

COMPILATION OF STATEMENTS TO THE COMMISSION RE: THE 10-MONTH TIME-OF-USE IMPLEMENTATION PERIOD

DATE	STATEMENT	CITATION
December 3, 2021	<p>“APS has been moving forward with implementation of the Decision consistent with the understanding that the Commission is aware that new residential TOU hours could not be completed by December 1, 2021, but will be completed within approximately 10 months. While the Decision does not expressly acknowledge this necessary extension of time to implement the new TOU hours, the Company notified the Commission of the time required to update billing systems and reprogram meters to accommodate this change both in writing and during Open Meeting discussions.”</p> <p>“Chairwoman Márquez Peterson filed her letter of September 13, 2021 requesting information and analysis regarding a move to a 4 p.m. to 7 p.m. on-peak period for residential customers. APS responded that implementation of this change would be a lengthy, far-reaching effort and that new TOU hours would require about ten months to fully implement. In APS's response to the Chairwoman's request, APS noted that “[t]his process will cost about \$5.2 million and take about ten months post-Decision to implement.” Additionally, throughout discussions on this topic in Open Meeting, APS continued to highlight that implementation of new TOU hours would not be feasible immediately and, instead, would take about ten months to implement.”</p> <p>“APS expects to begin transitioning customers to these rate schedules approximately 7 months after the date of</p>	APS letter to Commissioners regarding implementation of new residential TOU hours at 1-2

ATTACHMENT B

COMPILATION OF STATEMENTS TO THE COMMISSION RE: THE 10-MONTH TIME-OF-USE IMPLEMENTATION PERIOD

DATE	STATEMENT	CITATION
	the Decision, and complete the transition within 10 months as communicated to the Commission.”	
December 15, 2021	“As discussed in the rate case APS exceptions, the response to Chairwoman Márquez Peterson's September 13, 2021 letter, and the rate case Open Meetings, the Rate Comparison Tool and the pro forma billing notice will be unavailable to customers for a minimum of 10 months to implement the necessary changes and allow the system to accumulate an additional three-month period, which is necessary to collect the customer-specific energy-use data under the new structural rate design to provide a customer-specific MEP. That 10-month timeframe for these items to be unavailable began on December 1 when new rates and charges took effect.”	APS letter to Chairwoman Márquez Peterson and Commissioners providing update on customer notifications, CEOP, and rate comparison tool and <i>pro forma</i> billing at 4
December 16, 2021	“As we informed the Commission throughout the multiple days of Open Meeting proceedings, implementing the new time-of-use hours is a complex process. It involves multiple systems and steps that will take approximately 10 months to do it accurately. And we are committed to doing it accurately and in a manner that is smooth for all of our customers.”	Open Meeting Transcript, Item 41 at 8 (Krueger)

OPEN MEETING AGENDA ITEM

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September 24, 2021

Lea Márquez Peterson, Chairwoman
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RE: Arizona Public Service Company (APS or the Company)
Application for Approval of Rates, Charges and Schedules
Docket No. E-01345A-19-0236

Dear Chairwoman Márquez Peterson:

Thank you for your letter of September 13, 2021, in which you requested a rate schedule and a bill impact analysis based on a shorter weekday on-peak period of 4 p.m. to 7 p.m. for residential APS customers on time-of-use (TOU) and demand rates.

Customers are at the center of everything we do. APS employees take pride in focusing on what is important to the more than 1.3 million customers we serve. APS's number one priority is providing reliable power to residents and businesses 24 hours a day, seven days a week. TOU and demand rate plans are designed to help do that. APS will continue to engage with our customers to ensure they receive reliable, affordable, and clean energy, and will continue to provide them with effective tools to make informed energy decisions.

APS's current residential on-peak hours of 3 p.m. to 8 p.m. Monday through Friday are appropriate and in the public interest.¹ Customers know and are responding to these hours, consistently reducing the actual system load when the system needs it most. Proposals to shorten these on-peak hours do not align with APS's overall system peak hours and would not provide accurate price signals to customers, thus undermining the very purpose of TOU rates. Maintaining the current 3 p.m. to 8 p.m. on-peak period encourages customers to shift their energy use outside of high-load and high-cost hours, reducing the need for current and future power purchases and additional infrastructure costs. In addition, changing the TOU hours would require APS to substantially increase the on-peak rate or off-peak rates to cover the revenue shortfall, thereby creating a broad range of bill impacts for customers.

Maintaining these on-peak hours has the added benefit of supporting customer stability and saving the expense of reprogramming 1.15 million meters, as well as avoiding the need to take down the Rate Comparison Tool and monthly bill *pro forma* in order to collect

¹ ROO at 350.

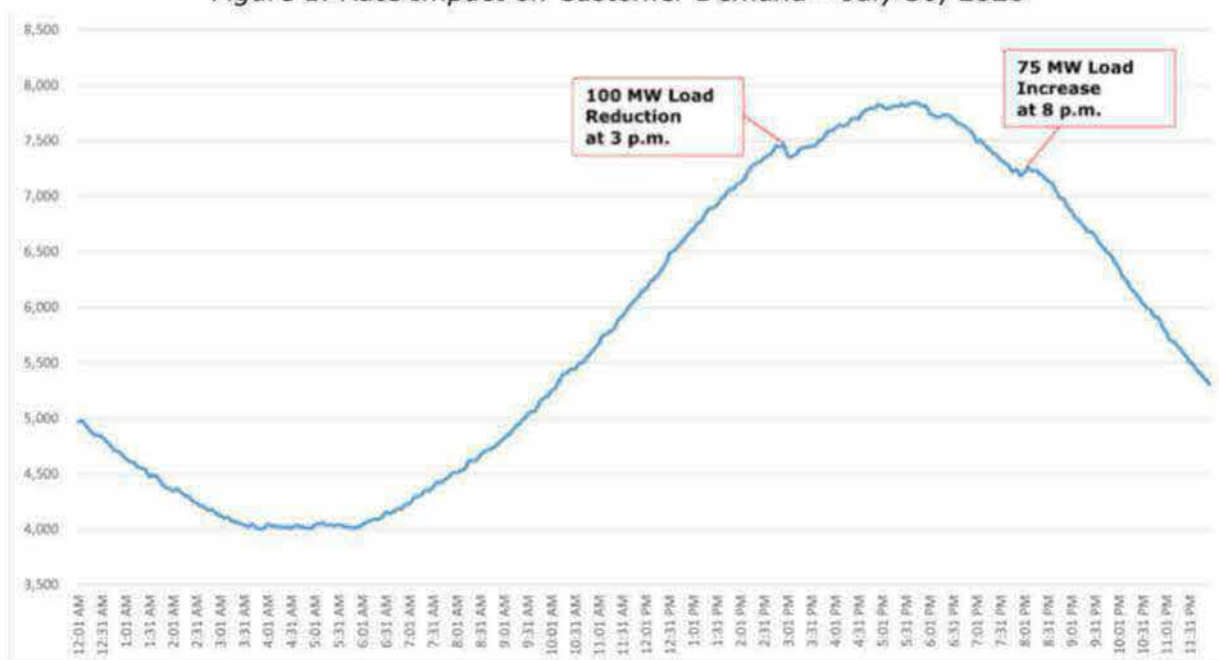
sufficient customer data to perform new rate calculations under a new on-peak period. The Company's current residential on-peak hours are appropriate, effective, and should not be shortened.

A. Customers know and are responding to the current on-peak period.

APS's TOU and demand rates are designed to incentivize customers to shift their energy consumption from high usage hours (on-peak) to lower usage hours (off-peak). On-peak rates (which are greater than off-peak rates) send price signals that encourage customers to shift usage to lower-cost hours, thereby reducing overall costs and improving the efficiency of the system. By reducing on-peak usage, customers help to keep costs low by reducing the need for new energy resources or additional generation through Purchase Power Agreements that would otherwise be required to serve a growing peak summer load.²

APS customers on TOU and demand rates have shifted their usage to align with the 3 p.m. to 8 p.m. on-peak period. For example, in an analysis of system load on July 5, 2018, at 3 p.m. overall load dropped by 40 MW, which was followed by a 60 MW increase at 8 p.m., demonstrating that customers understand and respond to the price signals of these on-peak hours. As customers have continued to adapt to these hours, more significant shifting has occurred. Even on the day that the Company experienced its record peak system load in 2020 (on July 30), when temperatures reached 118 degrees and more customers were working from home due to the pandemic, customers were still responsive to the 3 p.m. to 8 p.m. price signal. In fact, the data demonstrates that on July 30, 2020, customers reduced their consumption at 3 p.m. by an even greater extent than in 2018 as APS observed a 100 MW reduction in system load and a corresponding increase of 75 MW at 8 p.m. as shown below.

Figure 1. Rate Impact on Customer Demand – July 30, 2020



² APS customers have rate options. If a customer prefers a rate without an on-peak period, the customer may choose the basic rate. TOU and demand rates are voluntary.

The evidence in this case proves the current on-peak period “is . . . working”³ and has influenced customers to reduce their energy demand during that period, even on APS’s highest demand days. While on-peak periods encourage customers to shift energy consumption to lower cost hours, they do not restrict a customer’s ability to live normally and comfortably. APS, in collaboration with stakeholders, has also been working to improve customer tools to increase understanding of TOU and demand rates. Tools like the energy and demand estimator, which is an interactive webpage to help customers estimate personal energy use and demand, allow customers to understand how they can save energy under the current TOU hours.⁴

B. Shortening the on-peak period will significantly change bill impacts for customers.

Proposals to significantly shorten the on-peak hours would require either a substantial increase to the on-peak rate to recover the same amount of revenue during a shorter period of time or necessitate an increase in the off-peak rates to cover the revenue shortfall. Either of these options will greatly change the bill impacts to customers and make them more disparate across the residential class than the proportionate increase proposed by APS. APS provided a TOU analysis that showed the reduction of APS’s current on-peak hours, under present rates, would cause a revenue deficiency of \$65 million. Additionally, reducing the rate differential would dilute the conservation signals.

Administrative Law Judge Harpring requested a visual representation of the different bill impacts that would occur in the Test Year if the TOU period had been 4 p.m. to 7 p.m. as opposed to 3 p.m. to 8 p.m., with no other changes to rates. This information was provided as Exhibit APS-55 and is shown below.

³ ROO at 350.

⁴ See <https://www.aps.com/en/Residential/Save-Money-and-Energy/Energy-Estimator>. This interactive estimator replaces the “demand estimation worksheet” provided as Exhibit APS-45: <https://docket.images.azcc.gov/E000011364.pdf?i=1632165905683>.

Figure 2. Test Year Bill Impacts of Change in On-Peak Period to 4-7 p.m.

Base Rate Impact						
	TOU-E+DEMAND		TOU-E		DEMAND	
Base						
% Impact	customers	% customers	customers	% customers	customers	% customers
<-5.0%	3,719	0.82%	19	0.00%	3,700	0.82%
-5.0% to -4.01%	2,766	0.61%	92	0.02%	2,674	0.59%
-4.0% to -3.01%	5,826	1.29%	683	0.15%	5,143	1.14%
-3.0% to -2.01%	18,788	4.16%	8450	1.87%	10,338	2.29%
-2.0% to -1.01%	71,074	15.75%	51951	11.51%	19,123	4.24%
-1.0% to 0.0%	127,337	28.21%	98764	21.88%	28,573	6.33%
0.01% to 1.0%	102,917	22.80%	72402	16.04%	30,515	6.76%
1.01% to 2.0%	63,199	14.00%	30504	6.76%	32,695	7.24%
2.01% to 3.0%	37,118	8.22%	10770	2.39%	26,348	5.84%
3.01% to 4.0%	13,380	2.96%	4075	0.90%	9,305	2.06%
4.01% to 5.0%	3,695	0.82%	1792	0.40%	1,903	0.42%
5.01% to 6.0%	1,156	0.26%	645	0.14%	511	0.11%
6.01% to 7.0%	332	0.07%	129	0.03%	203	0.04%
7.01% to 8.0%	54	0.01%	9	0.00%	45	0.01%
8.01% to 9.0%	13	0.00%	0	0.00%	13	0.00%
9.01% to 10.0%	1	0.00%	0	0.00%	1	0.00%
10.01% to 11.0%	-	0.00%	0	0.00%	-	0.00%
11.01% to 12.0%	1	0.00%	0	0.00%	1	0.00%
12.01% to 13.0%	-	0.00%	0	0.00%	-	0.00%
13.01% to 14.0%	-	0.00%	0	0.00%	-	0.00%
14.01% to 15.0%	-	0.00%	0	0.00%	-	0.00%
	451,376	100.00%	280,285	62.10%	171,091	37.90%
Avg Impact - Base	0.20%					
Target	0.00%					

The chart above shows:

- 221,866 customers (49.2%) of the 451,376 customers on TOU and demand rates included in the data set would experience a bill increase strictly due to the change in hours.
- Customers who are currently shifting more energy to off-peak hours today would experience a larger increase due to the higher off-peak energy prices.
- This analysis applies only to customers on TOU and demand rates, based on current rates, with no adjustments to reflect changes in the ROO. It does not include basic or legacy rates.

Although there are different ways to retain revenue neutrality when adjusting for the revenue deficiency, this approach adjusts off-peak rates to recover the revenue deficiency in the period that the energy is consumed, the newly created (in this analysis) off-peak hours of 3 p.m. to 4 p.m. and 7 p.m. to 8 p.m.

C. The current on-peak period is consistent with system load.

APS's current on-peak hours in its residential TOU and demand rates are from 3 p.m. to 8 p.m. on weekdays. This five-hour on-peak period is reasonable⁵ and reflects an appropriate balance between customer convenience, hourly system load and market prices. Proposals to shorten the residential on-peak hours should be rejected as they do not adequately align with APS's load.

Reliability needs for APS and its customers are driven by the 90 highest net load hours in a given year. Based on APS's 2021 net load curve, all 90 of these highest hours fall in the summer between the hours of 2 p.m. and 9 p.m. In recognition of the fact that customers need to use electricity during the on-peak period to cool their homes in the summer, on-peak prices were adjusted to reflect that balance and APS shortened the on-peak hours to 3 p.m. to 8 p.m. to provide more off-peak time for customers.

Wholesale prices present an independent view of what the resource-challenged hours are from a regional reliability perspective, which can impact all electric utilities in the region. APS engages with the broad energy marketplace to buy and sell power based on dynamic conditions of customer needs. Energy pricing aligns to supply and demand. Abundance in resources drives prices low (mid-day non-summer months) and scarcity drives prices high. Prices in that way are an indicator of risk.

In July of 2021, wholesale market prices were highest from 7 p.m. to 8 p.m. This pricing indicates the tightest timeframe for resource availability is from 7:00 p.m. to 8:00 p.m. That hour was also the net peak hour for the APS system. If TOU hours ended at 7:00 p.m., customer usage would increase during the periods of highest stress on the electric grid.

Keeping the 7 p.m. to 8 p.m. hour in the on-peak period provides immediate benefits to APS customers by encouraging customers to shift their energy use outside high-load hours, thereby reducing the amount and cost of wholesale market purchases during that on-peak period. Additionally, managing loads during these hours defers the need for new resources and helps customers save money on infrastructure costs.

⁵ Numerous utilities have longer on-peak windows and many on-peak periods run later in the evening. The table below provides examples of other utility summer weekday on-peak hours:

NV Energy – Las Vegas	1 pm to 7 pm	NV Energy hours
Florida Power and Light	12 pm to 9 pm	FPL TOU hours
Southern California Edison (SCE)	4 pm to 9 pm or 5 pm to 8 pm	SCE TOU hours
Pacific Gas & Electric (PG&E)	4 pm to 9 pm or 5 pm to 8 pm	PG&E TOU hours
San Diego Gas & Electric SDG&E	4 pm to 9 pm	SDG&E TOU hours
Salt River Project (SRP)	2 pm to 8 pm	SRP TOU hours

D. Peak demand continues to shift later in the day, making it critical to maintain 7 p.m. to 8 p.m. as on-peak.

The growth of renewable resources at both the utility scale and customer scale across the country continues to push resource demands later in the day. Utilities are responding to this shift by moving their on-peak hours progressively later in the day. Above, we provided examples of this common trend among utilities, many of which have on-peak hours that run until 9 p.m.⁶ Some utilities have on-peak hours that run even later to 10 p.m.⁷

APS's system peak is also shifting to later in the day, so it is critical for the on-peak hours to include 7 p.m. to 8 p.m. The most resource constrained hours will occur as the sun sets and customer demand remains high. California's experience in August 2020 demonstrates that reliability during the hours immediately following sunset can present significant practical challenges. A durable TOU period will capture today's needs and risks as well as preparing for the future, so the on-peak period does not need to be updated every few years. This is a prudent approach:

Because APS can only reasonably expect to have more solar installed on its system in the coming years, the addition of solar (at least without storage) can be expected to result in APS's net peak load shifting later in the day rather than earlier, and it would be disadvantageous (to everyone) for APS to have to build peaking plant or to purchase market power in those high-cost later evening hours, it is appropriate and in the public interest to maintain APS's 3 p.m. to 8 p.m. on-peak period.⁸

E. Changing the on-peak period will require reeducating customers, reprogramming 1.15 million meters, and taking down the Rate Comparison Tool and monthly bill *pro forma*.

Changing the on-peak period for TOU and demand rates will have practical implications, including new customer communications and rate education efforts, training customer care advisors, and reprogramming the Company's 1.15 million meters. This process will cost about \$5.2 million and take about ten months post-Decision to implement. Additionally, when a rate design is changed by modifying the on-peak period, the Rate Comparison Tool must be taken down and *pro forma* bill messaging paused to collect customer-specific energy-use data under the new rate design.⁹ This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer's most economical plan (MEP) based on that customer's historical data. The Rate Comparison Tool on [aps.com](https://www.aps.com) and the *pro forma* messaging on each customer's monthly bill are important tools for customers that APS put

⁶ Please see Footnote 5 above.

⁷ Colorado Springs Utilities has a winter rate that runs until 10pm (see <https://www.csu.org/Pages/ElectricTOU.aspx>) and ComEd has a shoulder on-peak period, priced between off-peak and super on-peak, that runs until 10:00 PM (see <https://www.comed.com/WaysToSave/ForYourHome/Pages/TimeofDayPricing.aspx>).

⁸ ROO at 350.

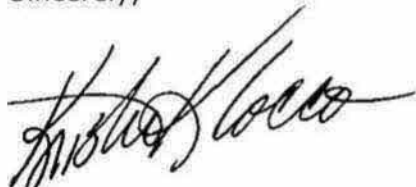
⁹ When a rate design is changed, the Company must calculate the MEP shown on the Rate Comparison Tool and *pro forma* at the same time as calculating billing to ensure that all billing factors are captured. Rate design changes are only captured on a going forward basis for customers. APS collects three months of customer data before providing a MEP because a customer's energy use may vary widely month-to-month and a quarter of a year of data provides a reasonable basis to determine a customer's general pattern in energy consumption.

in place at the direction of the Commission. Taking these tools down negatively impacts all APS customers.

In sum, APS's current on-peak hours are appropriate and in the public interest. The current on-peak period of 3 p.m. to 8 p.m. is consistent with actual APS system peak and has worked to positively influence customer energy use. Maintaining the current 3 p.m. to 8 p.m. on-peak period has "the added advantages of not necessitating a reworking of the TOU-E tariff to make up for the lost revenue that would otherwise result from the shorter on-peak period, not causing unforeseeable bill impacts, and not making historic usage data obsolete for use in comparing rates."¹⁰ Keeping these on-peak hours intact provides customer stability and prevents challenges in obtaining historical data to assist customers as they select rates. The Company's residential on-peak hours are appropriate, effective, and should be adopted as proposed by the Company in this case.

Please let me know if you have any questions.

Sincerely,



Kristie Cocco
KC/bgs

cc: Commissioner Sandra D. Kennedy
Commissioner Justin Olson
Commissioner Anna Tovar
Commissioner Jim O'Connor

¹⁰ ROO at 350.

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
ARIZONA PUBLIC SERVICE COMPANY FOR A) DOCKET NO.
HEARING TO DETERMINE THE FAIR VALUE) E-01345A-19-0236
OF THE UTILITY PROPERTY OF THE)
COMPANY FOR RATEMAKING PURPOSES, TO)
FIX A JUST AND REASONABLE RATE OF)
RETURN THEREON, TO APPROVE RATE)
SCHEDULES DESIGNED TO DEVELOP SUCH)
RETURN.) SPECIAL
_____) OPEN MEETING

At: Phoenix, Arizona

Date: October 5, 2021

Filed: October 12, 2021

REPORTER'S TRANSCRIPT OF PROCEEDINGS

AGENDA ITEM NO. 1

VOLUME II
(Pages 264 through 540)

COASH & COASH, INC.
Court Reporting, Video & Videoconferencing
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Certificate No. 50658

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1 opposed to a lot of customer satisfaction, because we do
2 have to reallocate those costs somewhere in the rate
3 design.

4 From an implementation standpoint, just to make
5 sure folks are aware of this, and it is similar to when
6 we made the last change, to make this change will
7 involve some fairly extensive reprogramming of the
8 meters and a very deliberate roll-out strategy. And the
9 last rate design change we made took about a year to get
10 the meters reprogrammed and to actually push out the
11 rate changes to the customers who are impacted. That's
12 what we would have to do here.

13 So it will take us about \$5 million to
14 reprogram. And I am not complaining about that. But it
15 is really, that will be about 10 months after a decision
16 for us to get the rate design changed, to get the
17 programming in place, to begin pushing out the meters,
18 and then to work on the customer outreach to make sure
19 they are aware of the change that we would be making.

20 And also during that time frame, because we are
21 now changing the rate design, we would need to take the
22 rate comparison tool and pro forma billing down because,
23 again, I would be concerned about telling customers here
24 is the rate you should change to knowing that we are
25 going to be changing to a different rate design for

1 which we don't have the billing information or the data
2 when we shorten that time-of-use window.

3 So we would take the rate design -- I am sorry,
4 the rate comparison tool and the pro forma billing down
5 during the process of the rate migration, and then
6 probably three to six months after we make the rate
7 migration we would be able to reinstitute the rate
8 comparison tool and the pro forma billing. But we would
9 need to establish a history with the customers before we
10 made that change.

11 So it is a fairly complicated process. My
12 belief is that it will create more customer frustration
13 and concern, given that we are not hearing as much of
14 the concern over this time-of-use period and the ratio
15 between the on- and off-peak rates is manageable for
16 customers.

17 And I think most importantly, with this decision
18 we will open flat rates to every customer that wants a
19 flat rate, time-of-use rate to every customer who wants
20 a time-of-use rate, time-of-use with demand to every
21 customer who wants a time-of-use with demand rate. So
22 if a customer really feels that the time-of-use window
23 does not work for them, they could choose a flat rate.

24 As you know, for many customers, they are
25 natural savers. They don't really need to change any

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION) DOCKET NO.
OF ARIZONA PUBLIC SERVICE COMPANY) E-01345A-19-0236
FOR A HEARING TO DETERMINE THE)
FAIR VALUE OF THE UTILITY)
PROPERTY OF THE COMPANY FOR)
RATEMAKING PURPOSES, TO FIX A) OPEN MEETING
JUST AND REASONABLE RATE OF)
RETURN THEREON, TO APPROVE RATE) AGENDA ITEM NO. 18
SCHEDULES DESIGNED TO DEVELOP)
SUCH RETURN.)

At: Phoenix, Arizona

Date: October 27, 2021

Filed: November 1, 2021

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OPEN MEETING AGENDA ITEM NO. 18

VOLUME V
(Pages 863 through 1066)

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1 And then they performed the different bin
2 analysis of what kind of -- what the spread would be
3 across the different ratepayers. Do you have those in
4 front of you, Commissioner? So you can look and see
5 that there's different -- I think that the -- you see
6 there's a difference in how it affects the customers.

7 I think if you spread it between both the on-
8 and off-peak, you see fewer customers seeing a rate
9 increase. But I think if you focus it on the on-peak,
10 I think you see more with a bigger decrease but less
11 overall.

12 CHWM. MÁRQUEZ PETERSON: Thank you.

13 And Commissioner Tovar, Ms. Lockwood has her
14 hand up. Would you like to hear from APS?

15 COM. TOVAR: Yes, please.

16 CHWM. MÁRQUEZ PETERSON: Ms. Lockwood.

17 MS. LOCKWOOD: Thank you, Madam Chair,
18 Commissioner Tovar. Just a couple of points that I
19 wanted to note on this for information purposes as
20 you're deliberating on these amendments. I won't
21 repeat the concerns we have from a resource
22 perspective. You heard that at the last Open Meeting.

23 But I did want to remind the Commissioners
24 that any change to the time of use hours is going to
25 take us approximately 10 months to implement. So I

1 just wanted to make sure that was clear.

2 And that also, the proforma billing, where a
3 customer is informed of their most economical plan on
4 their bill, as well as the rate comparison tool, will
5 be down for some period of time as we establish new
6 history for those customers.

7 So just wanted to remind the Commissioners of
8 that information that we provided during the last Open
9 Meeting.

10 And then I also wanted to share some
11 information from -- or, some insights from the bill and
12 bin analysis that we had -- we filed in the docket. We
13 filed a number of them, and I know there's a lot of
14 pages there. Based on our analysis, including an
15 analysis that we haven't docketed yet but is based
16 on -- a new bill impact analysis based on the current
17 revenue requirement, we took a look at that and it
18 looks as if about 8 percent of customers, under that
19 scenario, will actually see a rate increase, small rate
20 increase for the most part, between zero and 1 percent,
21 and there's just a few customers that will be greater
22 than that.

23 But I also had to note that actually the
24 results were different than what we had anticipated
25 when we looked at the difference between the Márquez

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION) DOCKET NO.
OF ARIZONA PUBLIC SERVICE COMPANY) E-01345A-19-0236
FOR A HEARING TO DETERMINE THE)
FAIR VALUE OF THE UTILITY)
PROPERTY OF THE COMPANY FOR)
RATEMAKING PURPOSES, TO FIX A) OPEN MEETING
JUST AND REASONABLE RATE OF)
RETURN THEREON, TO APPROVE RATE) AGENDA ITEM NO. 14
SCHEDULES DESIGNED TO DEVELOP)
SUCH RETURN.)

At: Phoenix, Arizona

Date: November 2, 2021

Filed: November 5, 2021

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OPEN MEETING AGENDA ITEM NO. 14

VOLUME VI
(Pages 1067 through 1089)

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1 CHWM. MÁRQUEZ PETERSON: Thank you.

2 Commissioner O'Connor.

3 COM. O'CONNOR: Thank you, Madam Chair.

4 I'd like to direct my question to Barbara
5 Lockwood. And forgive me, Ms. Lockwood, I don't
6 recognize you. I'm assuming you're pictured here,
7 right? Thank you very much. Appreciate that.

8 When we were in the meeting last week and
9 having a discussion about the timing when the rate
10 change would go into place, you were talking about an
11 extended period of time. I think you might have said
12 10 months; I'm not really recalling. I've received
13 information that indicated the last time there was a
14 rate change, and it was an increase for APS, you were
15 able to get that done in three days or seven days or
16 something like that. Could you just explain how that
17 will work after our vote at today's meeting, just for
18 clarification, because I'm -- first time at it.

19 MS. LOCKWOOD: Yes, certainly. Madam Chair,
20 Commissioners, Commissioner O'Connor, what I had
21 indicated was that the time of use -- the new time of
22 use rates will not be able to go into effect for
23 approximately 10 months in total, and that's because we
24 do have to do system programming and metering
25 programming. The rate decrease, the change to the

1 rate, will go into effect on the effective date of the
2 order. And we had requested that be at least 21 days,
3 so we're looking at the first billing cycle or
4 December 1st. So that will go into effect, but the new
5 time of use rates and that rate -- the customers will
6 not be transitioned to that until approximately 10
7 months.

8 And the reason that's different, Madam Chair
9 and Commissioner O'Connor, is the last case was
10 actually a proposal that the company had made and then
11 settled. That settlement was achieved, I believe, in
12 March of that year, and then the Open Meeting was in
13 August, so we had been already working on those
14 programming changes. We had quite a bit of advance
15 notice that that's where it was going.

16 This was something of a late-breaking
17 development with the Commissioner amendments, and we've
18 already gotten started on the changes that are
19 necessary there, but it is an extended time period
20 before we can start transitioning customers to those
21 rates, and then all customers would be transitioned by
22 10 months.

23 COM. O'CONNOR: Thank you so much for that
24 clarification. Greatly appreciated and very clear.

25 CHWM. MÁRQUEZ PETERSON: Thank you.

**Todd Komaromy**

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December 3, 2021

Chairwoman Lea Márquez Peterson
Commissioner Sandra D. Kennedy
Commissioner Justin Olson
Commissioner Anna Tovar
Commissioner Jim O'Connor
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Company (APS or Company)
Application for Approval of Rates, Charges, and Schedules
Decision No. 78317 in Docket No. E-01345A-19-0236

Dear Chairwoman Márquez Peterson and Commissioners:

On November 9, 2021, the Commission issued Decision No. 78317 (Decision) in the Company's 2019 rate case. Since that time, APS employees have been diligently working to implement the many provisions and requirements of the Decision in good faith, including implementation of new rates on December 1, 2021.

APS is pleased to convey to you that new rates were implemented as ordered, and customers are now beginning to receive the benefits of the rate and program changes incorporated into the Decision.

The Decision requires APS to notify its customers of these new rates and charges in its customer bills and on its website in a form acceptable to Staff. The Company has provided Staff with copies of its customer notifications for review in compliance with this requirement; however, Staff has not approved these communications because the Decision does not acknowledge that the change in residential Time-of-Use (TOU) hours will be implemented in ten months.

APS has been moving forward with implementation of the Decision consistent with the understanding that the Commission is aware that new residential TOU hours could not be completed by December 1, 2021, but will be completed within approximately 10 months. While the Decision does not expressly acknowledge this necessary extension of time to implement the new TOU hours, the Company notified the Commission of the time required to update billing systems and reprogram meters to accommodate this change both in writing and during Open Meeting discussions.

Chairwoman Márquez Peterson filed her letter of September 13, 2021 requesting information and analysis regarding a move to a 4 p.m. to 7 p.m. on-peak period for residential customers. APS responded that implementation of this change would be a lengthy, far-reaching effort and that new TOU hours would require about ten months to

fully implement. In APS's response to the Chairwoman's request, APS noted that "[t]his process will cost about \$5.2 million and take about ten months post-Decision to implement."¹ Additionally, throughout discussions on this topic in Open Meeting, APS continued to highlight that implementation of new TOU hours would not be feasible immediately and, instead, would take about ten months to implement.²

Consistent with this prior notice to the Commission, APS filed its compliance rate and service schedules on November 30, 2021,³ providing rate schedules reflecting rates and TOU hours that will go into effect once this change has been implemented. Rate Schedules R-3 Revision 2 (Time-of-Use 4pm to 7pm Weekdays with Demand Charge) and TOU-E Revision 2 (Time-of-Use 4pm to 7 pm Weekdays) are marked as "Pending" and include the following language: "Upon the completion of the required billing system updates and individual customer metering changes, customers will be served under this new rate schedule with on-peak hours of 4 p.m. to 7 p.m." APS expects to begin transitioning customers to these rate schedules approximately 7 months after the date of the Decision, and complete the transition within 10 months as communicated to the Commission.

The Company is also developing its required Customer Education and Outreach Plan (CEOP) with stakeholders and interested parties, which will address the move to reduced TOU hours and will outline the planned customer outreach that will notify and educate residential customers about this change.

Please let me know if you have any questions.

Sincerely,

/s/ Todd Komaromy

Todd Komaromy
TK/bgs

cc: Docket Control

¹ <https://docket.images.azcc.gov/E000015845.pdf?i=1638562420096>

² In the Special Open Meeting on October 5, 2021, Mr. Guldner explained that a change in TOU hours would require "about 10 months after a decision for us to get the rate design changed, to get the programming in place, to begin pushing out the meters, and then to work on the customer outreach to make sure they are aware of the change that we would be making." In the Open Meeting on October 27, 2021, Ms. Lockwood noted again, "I did want to remind the Commissioners that any change to the time of use hours is going to take us approximately 10 months to implement. So I just wanted to make sure that was clear." In the Open Meeting on November 2, 2021, Ms. Lockwood again discussed implementation of TOU hours: "[T]he new time of use rates will not be able to go into effect for approximately 10 months in total, and that's because we do have to do system programming and metering programming. The rate decrease, the change to the rate, will go into effect on the effective date of the order. And we had requested that be at least 21 days, so we're looking at the first billing cycle or December 1st. So that will go into effect, but the new time of use rates and that rate -- the customers will not be transitioned to that until approximately 10 months."

³ <https://docket.images.azcc.gov/E000016766.pdf?i=1638562420096>. Additionally, the Company provided Staff with a redlined version of the rate and service schedules.

OPEN MEETING AGENDA ITEM



Kristie Cocco

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December 15, 2021

Chairwoman Lea Márquez Peterson
Commissioner Sandra D. Kennedy
Commissioner Justin Olson
Commissioner Anna Tovar
Commissioner Jim O'Connor
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Company (APS or Company)
Application for Approval of Rates, Charges, and Schedules
Decision No. 78317 in Docket No. E-01345A-19-0236

Dear Chairwoman Márquez Peterson and Commissioners:

APS provides the following update on its customer notifications about the new rates and charges implemented on December 1, 2021, the availability of customer rate education tools, and the Company's development of its Customer Education and Outreach Program (CEOP) in compliance with Decision No. 78317 (Nov. 9, 2021) (Decision).

Customer Notifications

APS is introducing changes to customers, including new rate plan names, increased time for customers to pay their bill, rate changes, and plan features, among other items. While the December bill is a primary communication channel, a variety of channels and touchpoints are being used.

Attached is a sample of the materials that APS is providing customers throughout December and into January. Outreach to customers during this time includes:

- General Rate Case Outcome bill inserts for residential and business customers;
- Rate Plan Update bill inserts for residential customers;
- Rate Plan Update emails for residential customers;¹

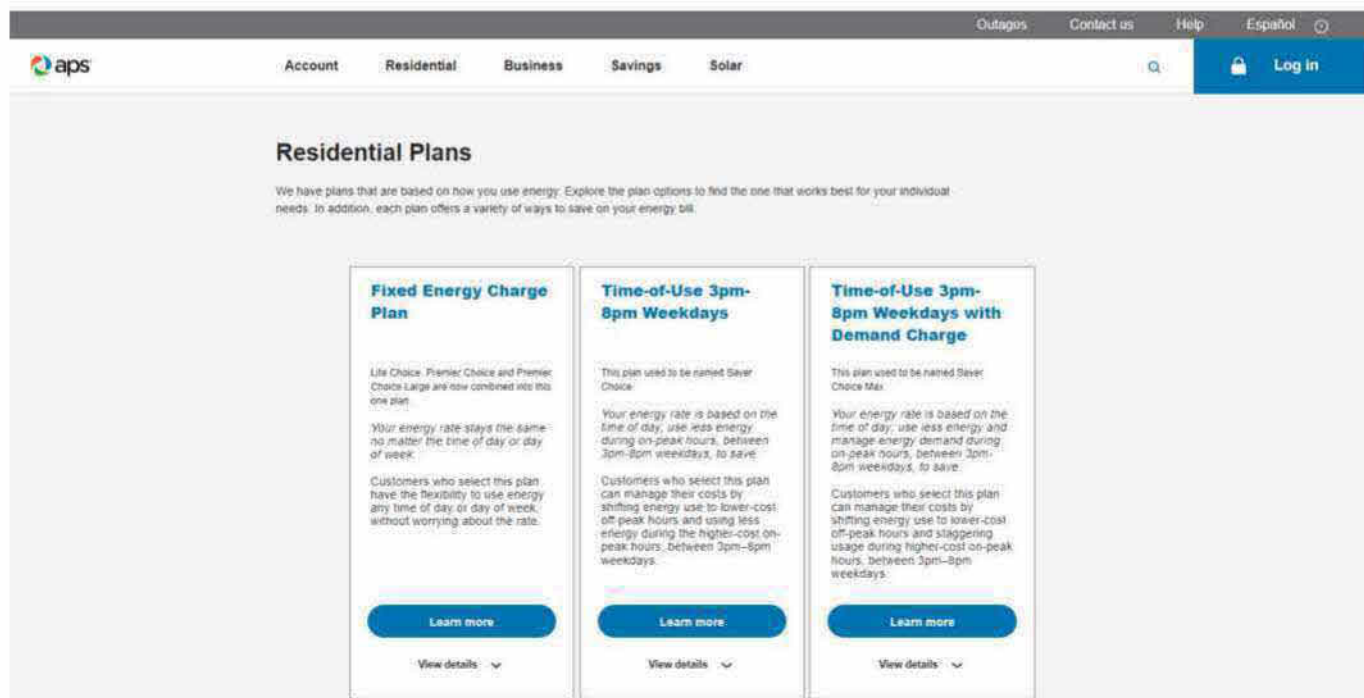
¹ Customers who have a current email address registered with APS will receive the email.

- Rate Plan Update letters to follow these emails, which will serve as an additional residential customer touchpoint for those who receive an email and as a way to reach those who do not have a current email address registered with APS;
- On-bill messages for modified due date and pro forma billing update, and elimination of credit card fee for Energy Support customers; and
- Letters and emails to customers enrolled in Preferred Due Date informing them their billing cycle is changing so they can keep their due date, and letters and emails for AutoPay customers who do not participate in Preferred Due Date informing them their automatic deduction will occur on the new extended due date.

In total, APS's initial communications for the changes that took effect on December 1 will include more than approximately 3.6 million emails, letters and bill onserts distributed to customers in December and early January.

The individualized communications approach extends to the Company's website, aps.com. Through the bill onserts, customers are encouraged to learn more about changes to their individual rate plan and ways to save by visiting plan-specific pages on aps.com. For example, a customer on the *Time-of-Use 3pm-8pm Weekdays with Demand Charge* plan (R-3) is invited to visit aps.com/demandplan, while a customer on a *Fixed Energy Charge* plan (R-XS, R-Basic or R-Basic L) is invited to aps.com/fixedplan. This enables customers to access information about changes to their rate plans more quickly and enjoy a better customer experience online. Plan-specific bill onserts include the aps.com/plans address so customers can explore all of their plan options, which they can also do from either the "Business" or "Residential" items in the top navigation menu when they visit the website.

Figure 1. Residential Plans page on aps.com



For a broad overview of the rate case outcome, customers can learn more at aps.com/updates. This page was posted the day after the Decision was filed and provided a resource for Care Center advisors to offer customers who called seeking more information before they received the outreach described above. (This webpage address is included on the residential and business general rate case outcome bill inserts.) The webpage includes links to information about APS rate plans and bill assistance, general factors that may affect customer bill impacts, and tools customers can use to help them manage their bills and save. Additional screenshots of the webpage aps.com/updates and the rate-tailored webpages are attached.

Customer Education & Outreach Plan (CEOP)

In addition to the immediate customer communications required based on changes that took effect December 1, APS is required to file a copy of the Company's proposed new CEOP for rate plans within 60 days of the Decision's effective date. APS is developing the CEOP in collaboration with interested rate case intervenors and stakeholders as well as with input from its Customer Advisory Board and broader customer research. The Company has engaged IBM to facilitate the stakeholder input process.

Even before the rate case concluded, the Company was working to collect insights to inform customer education. This included Customer Advisory Board sessions on specific topics, additional customer research including a survey for establishing a customer baseline from which to track education progress and results, and Consumer Work Group meetings. Most recently, APS hosted a CEOP development workshop with stakeholders on December 9.

A significant phase of the CEOP will relate to the change in the TOU on-peak window from 3-8 p.m. to 4-7 p.m. weekdays. This phase will benefit from the research the Company is conducting on customer needs and preferences to help them transition, as well as diverse stakeholder viewpoints. The collaborative CEOP development process now underway is important to successfully implement this change. Stakeholders will have an opportunity to review a draft CEOP later in December and provide input leading up to the filing date in January 2022.

Rate Comparison Tool and *Pro Forma* Billing

The Rate Comparison Tool on aps.com and the *pro forma* messaging on each customer's monthly bill are important tools for customers that APS put in place at the direction of the Commission. These tools apply a customer's actual historical energy use to Commission-approved rates to identify a customer's most economical plan (MEP). When a rate design is changed, these tools must be taken down to collect at least three months of customer-specific energy-use and billing data under the new rate design. This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer's MEP based on that customer's historical data.

The Decision included various structural rate design changes that could impact what rate is a customer's MEP going forward. These rate design changes included changes to (1) the basic service charge and its allocations,² (2) the demand limiter for customers on the *Time-of-Use 3pm-8pm Weekdays with Demand Charge* plan (R-3),³ and (3) the on-peak period.⁴

² Decision at 438.

³ Decision at 439.

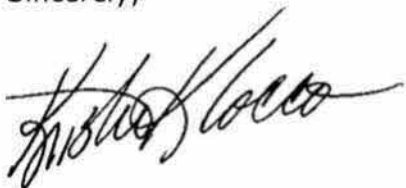
⁴ Decision at 439.

As discussed in the rate case APS exceptions,⁵ the response to Chairwoman Márquez Peterson's September 13, 2021 letter,⁶ and the rate case Open Meetings,⁷ the Rate Comparison Tool and the *pro forma* billing notice will be unavailable to customers for a minimum of 10 months to implement the necessary changes and allow the system to accumulate an additional three-month period, which is necessary to collect the customer-specific energy-use data under the new structural rate design to provide a customer-specific MEP. That 10-month timeframe for these items to be unavailable began on December 1 when new rates and charges took effect.

Beginning on that December 1 date, aps.com's rate comparison tool page displayed a message about the tool being unavailable and why. In addition, Care Center advisors will let customers know of the tool's status if they receive questions. In the meantime, APS streamlined the plan menu, including new names and explanations to make it easier for customers to understand and choose a plan that fits their lifestyle.

The changes from the rate case are many and varied for customers, and APS is dedicated to implementing them smoothly. The Company is providing phased communications informed by customer and stakeholder input, which has included when those communications are of most relevance and value to customers. APS is focused on providing customers with the information and tools they need to help navigate the initial changes resulting from this rate case and developing the Commission-ordered CEOP that will provide the longer-term customer education support.

Sincerely,



Kristie Cocco

KC/bg
Attachments

cc: Docket Control

⁵ APS Exceptions at 56-69.

⁶ <https://docket.images.azcc.gov/E000015845.pdf> at pp. 1, 6 (Sept. 24, 2021).

⁷ Transcript Vol. I, October 4, 2021 Special Open Meeting at 83:15 (Melissa Krueger); Transcript Vol. II, October 5, 2021 Special Open Meeting at 483:13-484:10 (Jeff Guldner); Transcript Vol. V, October 27, 2021 Special Open Meeting at 1010:17-1011:9 and 1027:12-1028:9 (Barbara Lockwood); Transcript Vol. VI, November 2, 2021 Open Meeting at 1075:19-1076:22 (Barbara Lockwood).

1 BEFORE THE ARIZONA CORPORATION COMMISSION

2

3 IN THE MATTER OF THE APPLICATION OF) DOCKET NO.
4 ARIZONA PUBLIC SERVICE COMPANY FOR) E-01345A-19-0236
5 A HEARING TO DETERMINE THE FAIR)
6 VALUE OF THE UTILITY PROPERTY OF)
7 THE COMPANY FOR RATEMAKING) OPEN MEETING
PURPOSES, TO FIX A JUST AND)
REASONABLE RATE OF RETURN THEREON,)
TO APPROVE RATE SCHEDULES DESIGNED) ITEM NO. 41
TO DEVELOP SUCH RETURN.)
_____)

8

9

10 At: Phoenix, Arizona

11 Date: December 16, 2021

12

13

14 TRANSCRIPT OF PROCEEDINGS
15 OPEN MEETING
16 ITEM NO. 41

17

18 TRANSCRIBED FROM AN AUDIO RECORDING

19 [File: Open Meeting, Item No. 41, at 00:00:00,
20 azcc_ca5da766-fee3-41b3-bd4a-8eeeff368c72.mp4.]

21

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1 the implementation of the changes to the time-of-use
2 hours in our residential rates. Let me start by just
3 foundationally saying, you know, we have put the rate
4 decrease into effect, into our existing rate structure
5 as directed.

6 So as of December 1st, the rate decrease is in
7 effect.

8 We have also put the new rate names into effect
9 with the caveat that we have kept the current
10 time-of-use hours on the name until the new hours go
11 into effect. And we can talk more about that in a
12 second.

13 But when the amendment passed at the Open
14 Meeting to change the time-of-use hours, APS immediately
15 took steps to begin planning, development, and
16 implementation of those new hours in a manner that was
17 going to be customer friendly, accurate, and as quickly
18 as possible.

19 As we informed the Commission throughout the
20 multiple days of Open Meeting proceedings, implementing
21 the new time-of-use hours is a complex process. It
22 involves multiple systems and steps that will take
23 approximately 10 months to do it accurately. And we are
24 committed to doing it accurately and in a manner that is
25 smooth for all of our customers.

ATTACHMENT C



Time-Of-Use Hours Analysis

On 1/28/2021, Administrative Law Judge Harpring requested a visual representation of the different bill impacts that would occur in the Test Year if the time-of-use period had been 4 p.m. to 7 p.m. as opposed to 3 p.m. to 8 p.m. Below is the requested analysis.

- This analysis is based on current rates, with no adjustments to reflect APS's proposed rate increase. This analysis also does not reflect the proposed addition of the super off-peak period to demand rates.
- Customers on basic and legacy rates would not be impacted by this analysis.
- Reducing the on-peak hours to a three-hour window of 4 p.m. to 7 p.m., during the Test Year, creates a revenue deficiency of \$65 million.
- Although there are different ways to retain revenue neutrality when incorporating the revenue deficiency, the approach that aligns rates with costs is to adjust off-peak rates to recover the revenue deficiency in the period that the energy is consumed. Thus, because the hours of 3 p.m. – 4 p.m. and 7 p.m. – 8 p.m. are considered off peak in this analysis, there is an increase to the off-peak rate to recover the deficiency.
 - 221,866 customers out of the 451,376 included in the data set, which is 49.2% of customers on TOU and Demand rates, would experience a bill increase strictly due to the change in hours.
 - Customers who are currently shifting more energy to off-peak hours today would experience a larger increase due to the higher off-peak energy prices.



Base Rate Impact							
	TOU-E+DEMAND		TOU-E		DEMAND		
Base							
% Impact	customers	% customers	customers	% customers	customers	% customers	
<-5.0%	3,719	0.82%	19	0.00%	3,700	0.82%	
-5.0% to -4.01%	2,766	0.61%	92	0.02%	2,674	0.59%	
-4.0% to -3.01%	5,826	1.29%	683	0.15%	5,143	1.14%	
-3.0% to -2.01%	18,788	4.16%	8450	1.87%	10,338	2.29%	
-2.0% to -1.01%	71,074	15.75%	51951	11.51%	19,123	4.24%	
-1.0% to 0.0%	127,337	28.21%	98764	21.88%	28,573	6.33%	
0.01% to 1.0%	102,917	22.80%	72402	16.04%	30,515	6.76%	
1.01% to 2.0%	63,199	14.00%	30504	6.76%	32,695	7.24%	
2.01% to 3.0%	37,118	8.22%	10770	2.39%	26,348	5.84%	
3.01% to 4.0%	13,380	2.96%	4075	0.90%	9,305	2.06%	
4.01% to 5.0%	3,695	0.82%	1792	0.40%	1,903	0.42%	
5.01% to 6.0%	1,156	0.26%	645	0.14%	511	0.11%	
6.01% to 7.0%	332	0.07%	129	0.03%	203	0.04%	
7.01% to 8.0%	54	0.01%	9	0.00%	45	0.01%	
8.01% to 9.0%	13	0.00%	0	0.00%	13	0.00%	
9.01% to 10.0%	1	0.00%	0	0.00%	1	0.00%	
10.01% to 11.0%	-	0.00%	0	0.00%	-	0.00%	
11.01% to 12.0%	1	0.00%	0	0.00%	1	0.00%	
12.01% to 13.0%	-	0.00%	0	0.00%	-	0.00%	
13.01% to 14.0%	-	0.00%	0	0.00%	-	0.00%	
14.01% to 15.0%	-	0.00%	0	0.00%	-	0.00%	
	451,376	100.00%	280,285	62.10%	171,091	37.90%	
Avg Impact - Base	0.20%						
Target	0.00%						

Additional factors to consider include:

- APS's rate comparison tool and pro forma billing feature would have to be taken offline for at least 3 months, and preferably closer to 12 months, to allow actual customer usage to accumulate.
- Reprogramming meters would require a 3- to 4-month transition period to the new time-of-use hours.
- Misalignment of TOU hours with system peak will lead to additional resource costs.

ATTACHMENT D

ATTACHMENT D

RESIDENTIAL TIME-OF-USE RATE DESIGN PROPOSALS

Corrected ROO vs. Party Positions	Seasonality	Weekday On-Peak Hours	Super Off-Peak Hours	Other TOU/TOU with Demand Rate Options
Corrected ROO	Retain existing	3 p.m. – 8 p.m.	Include in R-3; add 11 p.m. – 5 a.m. to R-Tech	Retain 90-day trial; one TOU plan only; no minimum usage requirements
AARP	No change proposed	No change proposed	No change proposed	Minimum usage requirement for TOU eligibility; require non-demand TOU default based on usage; eliminate/freeze R-2
APS	Retain existing	3 p.m. – 8 p.m.	Include in R-3	Eliminate 90-day TOU trial; freeze R-2
RUCO	Retain existing	3 p.m. – 8 p.m.	Retain existing	Develop second TOU rate plan; freeze R-2
SEIA/AriSEIA	June – Sept. summer season	2 p.m. – 7 p.m.	Weekdays 10 a.m. – 2 p.m. for R-Tech	Allow full demand limiter for solar customers
Staff	Eliminate seasonality for all charges in demand rate plans	4 p.m. – 7 p.m.	Eliminate in all plans	Eliminate 90-day TOU trial; retain both demand rate plans; year-round billing demand
WRA/SWEEP	No change proposed	4 p.m. – 7 p.m.	Retain existing; add 11 p.m. – 5 a.m. for EVs	Eliminate 90-day trial; require non-demand TOU as default rate for all

ATTACHMENT E

ATTACHMENT E

COMPILATION OF STATEMENTS TO THE COMMISSION RE: RATE COMPARISON TOOL

DATE	STATEMENT	CITATION
September 13, 2021	“The ROO’s structural rate design changes will require taking down the Rate Comparison Tool and pausing <i>pro forma</i> bill messaging for significant periods, negatively impacting all APS customers. The Rate Comparison Tool on aps.com and the <i>pro forma</i> messaging on each customer’s monthly bill are important tools for customers that APS put in place at the direction of the Commission. These tools apply a customer’s actual historical energy use to Commission-approved rates to identify a customer’s MEP. When a rate design is changed, as would be required by the ROO, these tools must be taken down to collect at least three months of customer-specific energy-use data under the new rate design. This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer’s MEP based on that customer’s historical data.”	APS Exceptions to the August 2, 2021 Recommended Opinion and Order at 57-59
September 24, 2021	“... avoiding the need to take down the Rate Comparison Tool and monthly bill <i>pro forma</i> in order to collect sufficient customer data to perform new rate calculations under a new on-peak period.”	APS Response to September 13, 2021 letter from Chairwoman Márquez Peterson at 1-2
October 4, 2021	“... the rate comparison tool and pro forma billing would need to be paused for a period of months so that new usage and billing history based on the changed hours can be accumulated and used to advise customers.”	Special Open Meeting Transcript Volume I at 83 (Krueger)
October 5, 2021	“So we would take the rate ... comparison tool and the pro forma billing down during the process of the rate migration, and then probably three to six months after we make the rate migration we would be able to reinstitute the rate comparison	Special Open Meeting Transcript Volume II at 484 (Guldner)

ATTACHMENT E

COMPILATION OF STATEMENTS TO THE COMMISSION RE: RATE COMPARISON TOOL

DATE	STATEMENT	CITATION
	tool and the pro forma billing. But we would need to establish a history with the customers before we made that change.”	
October 27, 2021	“I believe I have this correct that we would have to take it down immediately once the new rates go into effect, and it would not be able to come back up until we have been able to implement the new time of use rates and for at least three months post that for an individual customer.”	Open Meeting Transcript Volume V at 1028 (Lockwood)
December 15, 2021	<p>“The Rate Comparison Tool on aps.com and the pro forma messaging on each customer’s monthly bill are important tools for customers that APS put in place at the direction of the Commission. These tools apply a customer’s actual historical energy use to Commission-approved rates to identify a customer’s most economical plan (MEP). When a rate design is changed, these tools must be taken down to collect at least three months of customer-specific energy-use and billing data under the new rate design. This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer’s MEP based on that customer’s historical data.”</p> <p>“The Decision included various structural rate design changes that could impact what rate is a customer’s MEP going forward. These rate design changes included changes to (1) the basic service charge and its allocations, (2) the demand limiter for customers on the Time-of-Use 3pm-8pm Weekdays with Demand Charge plan (R-3), and (3) the on-peak period.”</p>	APS letter to Commissioners providing update on customer notifications, CEOP, and rate comparison tool and <i>pro forma</i> billing, p. 3-4

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

LEA MÁRQUEZ PETERSON, Chairwoman
SANDRA D. KENNEDY
JUSTIN OLSON
ANNA TOVAR
JIM O'CONNOR

IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR A HEARING TO
DETERMINE THE FAIR VALUE OF THE
UTILITY PROPERTY OF THE COMPANY
FOR RATEMAKING PURPOSES, TO FIX A
JUST AND REASONABLE RATE OF
RETURN THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP
SUCH RETURN.

DOCKET NO. E-01345A-19-0236

**ARIZONA PUBLIC SERVICE
COMPANY'S EXCEPTIONS TO
THE RECOMMENDED
OPINION AND ORDER**

examined during the rate case.¹⁴⁰ The ROO cites no evidence to support the theory that R-3 residential customers will “lose their incentive to conserve based on a high-demand incident early in the month.”¹⁴¹ Further, the ROO fails to narrowly tailor its “fix” for the issue it is trying to solve. If the ROO’s contention is held as true—that is, it is necessary to prevent the negative effect of an R-3 customer hitting his/her highest demand early in a billing period—the ROO’s objectives could not be met if a customer’s two highest demand hours were on the same day, or even in the same early week, of the billing period. Yet the ROO does not address these limitations; instead, it requires demand averaging for all R-3 customers, without questioning the proposal’s theoretical underpinnings or practical consequences.

Unfortunately, the ROO’s proposal to average demand based on the two peak hours in a billing period has several significant and adverse consequences for customers:

1. **The ROO’s structural rate design changes will require taking down the Rate Comparison Tool and pausing *pro forma* bill messaging for significant periods, negatively impacting all APS customers.** The Rate Comparison Tool on aps.com and the *pro forma* messaging on each customer’s monthly bill are important tools for customers that APS put in place at the direction of the Commission. These tools apply a customer’s actual historical energy use to Commission-approved rates to identify a customer’s MEP. When a rate design is changed, as would be required by the ROO, these tools must be taken down to collect at least three months of customer-specific energy-use data under the

¹⁴⁰ During the Rate Case, there was no discussion about averaging the two highest on-peak hours in a billing period for R-3 customers. No party presented evidence on this issue. The ROO was the first place this proposal was made; thus, this is the first opportunity for APS to consider and address this proposal and its unintended consequences on APS customers.

¹⁴¹ ROO at 346. Notably, R-3 currently includes a demand limiter feature, which advances the same function as the ROO’s demand averaging proposal by encouraging a customer to conserve throughout the billing period. Though the ROO would modify this feature, *see* ROO at 435, the demand limiter still provides a buffer if a customer experiences unexpected or unusual increases in on-peak demand in any given month.

new rate design.¹⁴² This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer's MEP based on that customer's historical data.

The ROO includes three structural rate design changes: (1) reducing the basic service charges and requiring the revenue difference be made up by increasing on-peak energy and demand charges for TOU-E and R-3 and the energy charges for R-Basic and R-Basic L;¹⁴³ (2) capping the demand limiter to three occurrences with only one during the summer;¹⁴⁴ and (3) calculating R-3 demand based on an average of the two highest on-peak hours in the month.¹⁴⁵ The first two of these rate design changes can be implemented together; but the R-3 demand averaging proposal will take much longer to develop, test and implement, as discussed below. This means that the Rate Comparison Tool and the *pro forma* billing notice will be unavailable to customers for a minimum of two separate, three-month data collection periods necessary to collect the customer-specific energy-use data under the new structural rate design to provide a customer-specific MEP. The ROO's structural rate design changes will also impact which rates are collectively identified as customers' MEPs. Rate design changes do not affect customers

¹⁴² When a rate design is changed, the Company must calculate the MEP shown on the Rate Comparison Tool and *pro forma* at the same time as calculating billing to ensure that all billing factors are captured. The rate design changes are therefore only captured on a going forward basis for customers. APS collects three months of customer data before providing a MEP because a customer's energy use may vary widely month-to-month and a quarter of a year of data provides a reasonable basis to determine a customer's general pattern in energy consumption. Though twelve months of customer billing data would be helpful in identifying seasonal variations, the Company wanted to ensure that a customer had access to these customer tools for rate selection earlier than that. With these considerations in mind, APS provides customers with an up-to-date MEP and *pro forma* billing notice each month based on at least three months, and up to twelve months, of a customer's actual historical energy-use data.

¹⁴³ Corrected ROO at <https://images.edocket.azcc.gov/docketpdf/E000015547.pdf>, Redline for Correction Letter at 2-3, Correcting ROO at 350, 435.

¹⁴⁴ ROO at 435.

¹⁴⁵ *Id.* at 433.

evenly. Combined, the ROO's rate design changes give some R-3 customers less of a decrease than customers on other rates by reducing the availability of the demand limiter and modifying the demand measurement and charge as described below. Collectively, the ROO's treatment of the R-3 demand rate could reduce the number of customers who experience bill savings under R-3.¹⁴⁶ Additionally, the basic service charge changes will cause disparate impacts across customers, particularly when viewing the impacts as a percentage of a customer's bill.

2. The ROO's two-peak-hour demand averaging will have a material impact on the Company's technology, increasing long-term costs for all customers.

The ROO's demand averaging proposal will have a material impact on the Company's core technologies, take more than a year to implement, and cost almost \$2 million to complete. Averaging two-peak-demand hours may sound innocuous, but it is not. Standard utility industry meter software is designed to track a single demand peak in a billing period, while standard billing software can track a single peak or the average of all demand in a billing period. Implementing the ROO's proposal would require complex customization of the Company's core meter and billing systems.¹⁴⁷

Customization heightens the risk of error when integrating different off-the-shelf software systems, both at the time of reprogramming and for every future upgrade and software patch going forward. Any unintended errors caused during customization may have downstream effects on customer-facing tools

¹⁴⁶ As the ROO recognizes, "The intent of the demand rates is to encourage a shift in consumption to lower demand and lower cost hours." ROO at 351; *see also id.* at 342, 348-349 (noting that the price signal of the on-peak period from 3 p.m. to 8 p.m. "is . . . working" and has influenced customers to reduce their energy demand during that period, even on APS's highest demand days).

¹⁴⁷ For example, a customer's two peak demands in a billing period could occur within a 24-hour window. This presents a practical challenge because meters can track only one peak in a 24-hour period. To account for this meter limitation, the MDMS system would need to be custom-programmed to begin tracking and averaging up to two peaks in a 24-hour period for the Company's approximately 1.5 million meters.

OPEN MEETING AGENDA ITEM

**Kristie Cocco**General Manager, Regulatory Affairs &
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September 24, 2021

Lea Márquez Peterson, Chairwoman
Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Company (APS or the Company)
Application for Approval of Rates, Charges and Schedules
Docket No. E-01345A-19-0236

Dear Chairwoman Márquez Peterson:

Thank you for your letter of September 13, 2021, in which you requested a rate schedule and a bill impact analysis based on a shorter weekday on-peak period of 4 p.m. to 7 p.m. for residential APS customers on time-of-use (TOU) and demand rates.

Customers are at the center of everything we do. APS employees take pride in focusing on what is important to the more than 1.3 million customers we serve. APS's number one priority is providing reliable power to residents and businesses 24 hours a day, seven days a week. TOU and demand rate plans are designed to help do that. APS will continue to engage with our customers to ensure they receive reliable, affordable, and clean energy, and will continue to provide them with effective tools to make informed energy decisions.

APS's current residential on-peak hours of 3 p.m. to 8 p.m. Monday through Friday are appropriate and in the public interest.¹ Customers know and are responding to these hours, consistently reducing the actual system load when the system needs it most. Proposals to shorten these on-peak hours do not align with APS's overall system peak hours and would not provide accurate price signals to customers, thus undermining the very purpose of TOU rates. Maintaining the current 3 p.m. to 8 p.m. on-peak period encourages customers to shift their energy use outside of high-load and high-cost hours, reducing the need for current and future power purchases and additional infrastructure costs. In addition, changing the TOU hours would require APS to substantially increase the on-peak rate or off-peak rates to cover the revenue shortfall, thereby creating a broad range of bill impacts for customers.

Maintaining these on-peak hours has the added benefit of supporting customer stability and saving the expense of reprogramming 1.15 million meters, as well as avoiding the need to take down the Rate Comparison Tool and monthly bill *pro forma* in order to collect

¹ ROO at 350.

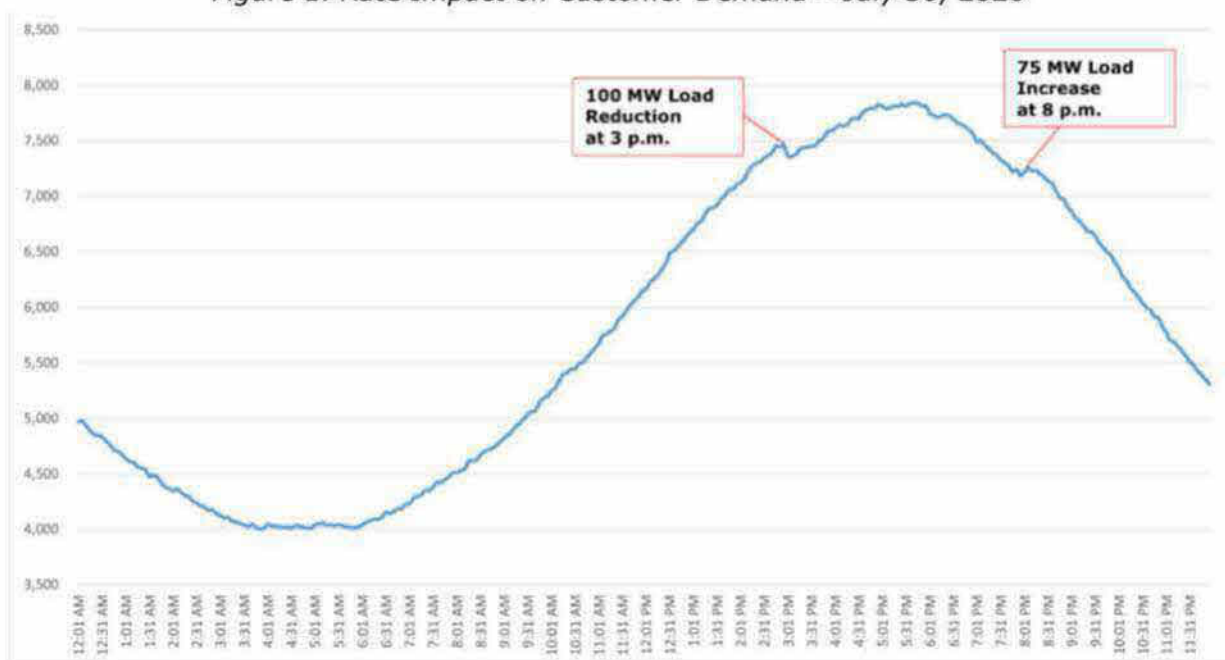
sufficient customer data to perform new rate calculations under a new on-peak period. The Company's current residential on-peak hours are appropriate, effective, and should not be shortened.

A. Customers know and are responding to the current on-peak period.

APS's TOU and demand rates are designed to incentivize customers to shift their energy consumption from high usage hours (on-peak) to lower usage hours (off-peak). On-peak rates (which are greater than off-peak rates) send price signals that encourage customers to shift usage to lower-cost hours, thereby reducing overall costs and improving the efficiency of the system. By reducing on-peak usage, customers help to keep costs low by reducing the need for new energy resources or additional generation through Purchase Power Agreements that would otherwise be required to serve a growing peak summer load.²

APS customers on TOU and demand rates have shifted their usage to align with the 3 p.m. to 8 p.m. on-peak period. For example, in an analysis of system load on July 5, 2018, at 3 p.m. overall load dropped by 40 MW, which was followed by a 60 MW increase at 8 p.m., demonstrating that customers understand and respond to the price signals of these on-peak hours. As customers have continued to adapt to these hours, more significant shifting has occurred. Even on the day that the Company experienced its record peak system load in 2020 (on July 30), when temperatures reached 118 degrees and more customers were working from home due to the pandemic, customers were still responsive to the 3 p.m. to 8 p.m. price signal. In fact, the data demonstrates that on July 30, 2020, customers reduced their consumption at 3 p.m. by an even greater extent than in 2018 as APS observed a 100 MW reduction in system load and a corresponding increase of 75 MW at 8 p.m. as shown below.

Figure 1. Rate Impact on Customer Demand – July 30, 2020



² APS customers have rate options. If a customer prefers a rate without an on-peak period, the customer may choose the basic rate. TOU and demand rates are voluntary.

The evidence in this case proves the current on-peak period “is . . . working”³ and has influenced customers to reduce their energy demand during that period, even on APS’s highest demand days. While on-peak periods encourage customers to shift energy consumption to lower cost hours, they do not restrict a customer’s ability to live normally and comfortably. APS, in collaboration with stakeholders, has also been working to improve customer tools to increase understanding of TOU and demand rates. Tools like the energy and demand estimator, which is an interactive webpage to help customers estimate personal energy use and demand, allow customers to understand how they can save energy under the current TOU hours.⁴

B. Shortening the on-peak period will significantly change bill impacts for customers.

Proposals to significantly shorten the on-peak hours would require either a substantial increase to the on-peak rate to recover the same amount of revenue during a shorter period of time or necessitate an increase in the off-peak rates to cover the revenue shortfall. Either of these options will greatly change the bill impacts to customers and make them more disparate across the residential class than the proportionate increase proposed by APS. APS provided a TOU analysis that showed the reduction of APS’s current on-peak hours, under present rates, would cause a revenue deficiency of \$65 million. Additionally, reducing the rate differential would dilute the conservation signals.

Administrative Law Judge Harpring requested a visual representation of the different bill impacts that would occur in the Test Year if the TOU period had been 4 p.m. to 7 p.m. as opposed to 3 p.m. to 8 p.m., with no other changes to rates. This information was provided as Exhibit APS-55 and is shown below.

³ ROO at 350.

⁴ See <https://www.aps.com/en/Residential/Save-Money-and-Energy/Energy-Estimator>. This interactive estimator replaces the “demand estimation worksheet” provided as Exhibit APS-45: <https://docket.images.azcc.gov/E000011364.pdf?i=1632165905683>.

Figure 2. Test Year Bill Impacts of Change in On-Peak Period to 4-7 p.m.

Base Rate Impact						
	TOU-E+DEMAND		TOU-E		DEMAND	
Base						
% Impact	customers	% customers	customers	% customers	customers	% customers
<-5.0%	3,719	0.82%	19	0.00%	3,700	0.82%
-5.0% to -4.01%	2,766	0.61%	92	0.02%	2,674	0.59%
-4.0% to -3.01%	5,826	1.29%	683	0.15%	5,143	1.14%
-3.0% to -2.01%	18,788	4.16%	8450	1.87%	10,338	2.29%
-2.0% to -1.01%	71,074	15.75%	51951	11.51%	19,123	4.24%
-1.0% to 0.0%	127,337	28.21%	98764	21.88%	28,573	6.33%
0.01% to 1.0%	102,917	22.80%	72402	16.04%	30,515	6.76%
1.01% to 2.0%	63,199	14.00%	30504	6.76%	32,695	7.24%
2.01% to 3.0%	37,118	8.22%	10770	2.39%	26,348	5.84%
3.01% to 4.0%	13,380	2.96%	4075	0.90%	9,305	2.06%
4.01% to 5.0%	3,695	0.82%	1792	0.40%	1,903	0.42%
5.01% to 6.0%	1,156	0.26%	645	0.14%	511	0.11%
6.01% to 7.0%	332	0.07%	129	0.03%	203	0.04%
7.01% to 8.0%	54	0.01%	9	0.00%	45	0.01%
8.01% to 9.0%	13	0.00%	0	0.00%	13	0.00%
9.01% to 10.0%	1	0.00%	0	0.00%	1	0.00%
10.01% to 11.0%	-	0.00%	0	0.00%	-	0.00%
11.01% to 12.0%	1	0.00%	0	0.00%	1	0.00%
12.01% to 13.0%	-	0.00%	0	0.00%	-	0.00%
13.01% to 14.0%	-	0.00%	0	0.00%	-	0.00%
14.01% to 15.0%	-	0.00%	0	0.00%	-	0.00%
	451,376	100.00%	280,285	62.10%	171,091	37.90%
Avg Impact - Base	0.20%					
Target	0.00%					

The chart above shows:

- 221,866 customers (49.2%) of the 451,376 customers on TOU and demand rates included in the data set would experience a bill increase strictly due to the change in hours.
- Customers who are currently shifting more energy to off-peak hours today would experience a larger increase due to the higher off-peak energy prices.
- This analysis applies only to customers on TOU and demand rates, based on current rates, with no adjustments to reflect changes in the ROO. It does not include basic or legacy rates.

Although there are different ways to retain revenue neutrality when adjusting for the revenue deficiency, this approach adjusts off-peak rates to recover the revenue deficiency in the period that the energy is consumed, the newly created (in this analysis) off-peak hours of 3 p.m. to 4 p.m. and 7 p.m. to 8 p.m.

C. The current on-peak period is consistent with system load.

APS's current on-peak hours in its residential TOU and demand rates are from 3 p.m. to 8 p.m. on weekdays. This five-hour on-peak period is reasonable⁵ and reflects an appropriate balance between customer convenience, hourly system load and market prices. Proposals to shorten the residential on-peak hours should be rejected as they do not adequately align with APS's load.

Reliability needs for APS and its customers are driven by the 90 highest net load hours in a given year. Based on APS's 2021 net load curve, all 90 of these highest hours fall in the summer between the hours of 2 p.m. and 9 p.m. In recognition of the fact that customers need to use electricity during the on-peak period to cool their homes in the summer, on-peak prices were adjusted to reflect that balance and APS shortened the on-peak hours to 3 p.m. to 8 p.m. to provide more off-peak time for customers.

Wholesale prices present an independent view of what the resource-challenged hours are from a regional reliability perspective, which can impact all electric utilities in the region. APS engages with the broad energy marketplace to buy and sell power based on dynamic conditions of customer needs. Energy pricing aligns to supply and demand. Abundance in resources drives prices low (mid-day non-summer months) and scarcity drives prices high. Prices in that way are an indicator of risk.

In July of 2021, wholesale market prices were highest from 7 p.m. to 8 p.m. This pricing indicates the tightest timeframe for resource availability is from 7:00 p.m. to 8:00 p.m. That hour was also the net peak hour for the APS system. If TOU hours ended at 7:00 p.m., customer usage would increase during the periods of highest stress on the electric grid.

Keeping the 7 p.m. to 8 p.m. hour in the on-peak period provides immediate benefits to APS customers by encouraging customers to shift their energy use outside high-load hours, thereby reducing the amount and cost of wholesale market purchases during that on-peak period. Additionally, managing loads during these hours defers the need for new resources and helps customers save money on infrastructure costs.

⁵ Numerous utilities have longer on-peak windows and many on-peak periods run later in the evening. The table below provides examples of other utility summer weekday on-peak hours:

NV Energy – Las Vegas	1 pm to 7 pm	NV Energy hours
Florida Power and Light	12 pm to 9 pm	FPL TOU hours
Southern California Edison (SCE)	4 pm to 9 pm or 5 pm to 8 pm	SCE TOU hours
Pacific Gas & Electric (PG&E)	4 pm to 9 pm or 5 pm to 8 pm	PG&E TOU hours
San Diego Gas & Electric SDG&E	4 pm to 9 pm	SDG&E TOU hours
Salt River Project (SRP)	2 pm to 8 pm	SRP TOU hours

D. Peak demand continues to shift later in the day, making it critical to maintain 7 p.m. to 8 p.m. as on-peak.

The growth of renewable resources at both the utility scale and customer scale across the country continues to push resource demands later in the day. Utilities are responding to this shift by moving their on-peak hours progressively later in the day. Above, we provided examples of this common trend among utilities, many of which have on-peak hours that run until 9 p.m.⁶ Some utilities have on-peak hours that run even later to 10 p.m.⁷

APS's system peak is also shifting to later in the day, so it is critical for the on-peak hours to include 7 p.m. to 8 p.m. The most resource constrained hours will occur as the sun sets and customer demand remains high. California's experience in August 2020 demonstrates that reliability during the hours immediately following sunset can present significant practical challenges. A durable TOU period will capture today's needs and risks as well as preparing for the future, so the on-peak period does not need to be updated every few years. This is a prudent approach:

Because APS can only reasonably expect to have more solar installed on its system in the coming years, the addition of solar (at least without storage) can be expected to result in APS's net peak load shifting later in the day rather than earlier, and it would be disadvantageous (to everyone) for APS to have to build peaking plant or to purchase market power in those high-cost later evening hours, it is appropriate and in the public interest to maintain APS's 3 p.m. to 8 p.m. on-peak period.⁸

E. Changing the on-peak period will require reeducating customers, reprogramming 1.15 million meters, and taking down the Rate Comparison Tool and monthly bill *pro forma*.

Changing the on-peak period for TOU and demand rates will have practical implications, including new customer communications and rate education efforts, training customer care advisors, and reprogramming the Company's 1.15 million meters. This process will cost about \$5.2 million and take about ten months post-Decision to implement. Additionally, when a rate design is changed by modifying the on-peak period, the Rate Comparison Tool must be taken down and *pro forma* bill messaging paused to collect customer-specific energy-use data under the new rate design.⁹ This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer's most economical plan (MEP) based on that customer's historical data. The Rate Comparison Tool on [aps.com](https://www.aps.com) and the *pro forma* messaging on each customer's monthly bill are important tools for customers that APS put

⁶ Please see Footnote 5 above.

⁷ Colorado Springs Utilities has a winter rate that runs until 10pm (see <https://www.csu.org/Pages/ElectricTOU.aspx>) and ComEd has a shoulder on-peak period, priced between off-peak and super on-peak, that runs until 10:00 PM (see <https://www.comed.com/WaysToSave/ForYourHome/Pages/TimeofDayPricing.aspx>).

⁸ ROO at 350.

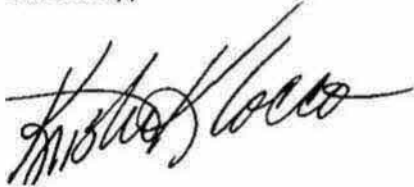
⁹ When a rate design is changed, the Company must calculate the MEP shown on the Rate Comparison Tool and *pro forma* at the same time as calculating billing to ensure that all billing factors are captured. Rate design changes are only captured on a going forward basis for customers. APS collects three months of customer data before providing a MEP because a customer's energy use may vary widely month-to-month and a quarter of a year of data provides a reasonable basis to determine a customer's general pattern in energy consumption.

in place at the direction of the Commission. Taking these tools down negatively impacts all APS customers.

In sum, APS's current on-peak hours are appropriate and in the public interest. The current on-peak period of 3 p.m. to 8 p.m. is consistent with actual APS system peak and has worked to positively influence customer energy use. Maintaining the current 3 p.m. to 8 p.m. on-peak period has "the added advantages of not necessitating a reworking of the TOU-E tariff to make up for the lost revenue that would otherwise result from the shorter on-peak period, not causing unforeseeable bill impacts, and not making historic usage data obsolete for use in comparing rates."¹⁰ Keeping these on-peak hours intact provides customer stability and prevents challenges in obtaining historical data to assist customers as they select rates. The Company's residential on-peak hours are appropriate, effective, and should be adopted as proposed by the Company in this case.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kristie Cocco', with a stylized, cursive script.

Kristie Cocco
KC/bgs

cc: Commissioner Sandra D. Kennedy
Commissioner Justin Olson
Commissioner Anna Tovar
Commissioner Jim O'Connor

¹⁰ ROO at 350.

1 BEFORE THE ARIZONA CORPORATION COMMISSION

2
3 IN THE MATTER OF THE APPLICATION OF)
ARIZONA PUBLIC SERVICE COMPANY FOR A) DOCKET NO.
4 HEARING TO DETERMINE THE FAIR VALUE) E-01345A-19-0236
OF THE UTILITY PROPERTY OF THE)
5 COMPANY FOR RATEMAKING PURPOSES, TO)
FIX A JUST AND REASONABLE RATE OF)
6 RETURN THEREON, TO APPROVE RATE)
SCHEDULES DESIGNED TO DEVELOP SUCH)
7 RETURN.) SPECIAL
_____) OPEN MEETING

8
9
10
11 At: Phoenix, Arizona

12 Date: October 4, 2021

13 Filed: October 12, 2021

14
15
16 REPORTER'S TRANSCRIPT OF PROCEEDINGS

17 AGENDA ITEM NO. 1

18 VOLUME I
19 (Pages 1 through 263)

20
21 COASH & COASH, INC.
22 Court Reporting, Video & Videoconferencing
1802 N. 7th Street, Phoenix, AZ 85006
23 602-258-1440 staff@coashandcoash.com

24 By: Colette E. Ross, CR
25 Certified Reporter
Certificate No. 50658

COASH & COASH, INC.
www.coashandcoash.com

602-258-1440
Phoenix, AZ

1 time-of-use hours, we received virtually no complaints
2 from our customers on the time-of-use hours.

3 Many of those customers cook dinner and run
4 their air conditioners between 3:00 to 8:00, but as the
5 data indicates, they are also making choices to conserve
6 energy at the same time. They might turn their
7 thermostat up a degree or two during on-peak hours or
8 they might avoid running electric appliances that don't
9 need to run during the on-peak hours, such as a clothes
10 dryer or a pool pump. And importantly, for customers
11 who are unable to or don't want to manage their usage,
12 they have other rate choices. And the ROO opens up a
13 flat rate, one that doesn't have on-peak hours to all of
14 our nonsolar customers.

15 The Commission shortened APS's time-of-use hours
16 to 3:00 to 8:00 p.m. in 2017, and any change to them
17 today will require significant customer re-education.
18 In addition, the rate comparison tool and pro forma
19 billing would need to be paused for a period of months
20 so that new usage and billing history based on the
21 changed hours can be accumulated and used to advise
22 customers.

23 TOU rates lower costs for all customers. But if
24 there is a misalignment between the on-peak hours in the
25 rates and the actual system peak hours, those benefits

E-01345A-19-0236 SOM ITEM 1 VOL. II 10/05/2021

1 BEFORE THE ARIZONA CORPORATION COMMISSION

2

3 IN THE MATTER OF THE APPLICATION OF)
4 ARIZONA PUBLIC SERVICE COMPANY FOR A) DOCKET NO.
5 HEARING TO DETERMINE THE FAIR VALUE) E-01345A-19-0236
6 OF THE UTILITY PROPERTY OF THE)
7 COMPANY FOR RATEMAKING PURPOSES, TO)
8 FIX A JUST AND REASONABLE RATE OF)
9 RETURN THEREON, TO APPROVE RATE)
10 SCHEDULES DESIGNED TO DEVELOP SUCH)
11 RETURN.) SPECIAL
12) OPEN MEETING

8

9

10

11 At: Phoenix, Arizona

12 Date: October 5, 2021

13 Filed: October 12, 2021

14

15

16 REPORTER'S TRANSCRIPT OF PROCEEDINGS

17 AGENDA ITEM NO. 1

18 VOLUME II
19 (Pages 264 through 540)

20

21

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1 which we don't have the billing information or the data
2 when we shorten that time-of-use window.

3 So we would take the rate design -- I am sorry,
4 the rate comparison tool and the pro forma billing down
5 during the process of the rate migration, and then
6 probably three to six months after we make the rate
7 migration we would be able to reinstitute the rate
8 comparison tool and the pro forma billing. But we would
9 need to establish a history with the customers before we
10 made that change.

11 So it is a fairly complicated process. My
12 belief is that it will create more customer frustration
13 and concern, given that we are not hearing as much of
14 the concern over this time-of-use period and the ratio
15 between the on- and off-peak rates is manageable for
16 customers.

17 And I think most importantly, with this decision
18 we will open flat rates to every customer that wants a
19 flat rate, time-of-use rate to every customer who wants
20 a time-of-use rate, time-of-use with demand to every
21 customer who wants a time-of-use with demand rate. So
22 if a customer really feels that the time-of-use window
23 does not work for them, they could choose a flat rate.

24 As you know, for many customers, they are
25 natural savers. They don't really need to change any

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION) DOCKET NO.
OF ARIZONA PUBLIC SERVICE COMPANY) E-01345A-19-0236
FOR A HEARING TO DETERMINE THE)
FAIR VALUE OF THE UTILITY)
PROPERTY OF THE COMPANY FOR)
RATEMAKING PURPOSES, TO FIX A) OPEN MEETING
JUST AND REASONABLE RATE OF)
RETURN THEREON, TO APPROVE RATE) AGENDA ITEM NO. 18
SCHEDULES DESIGNED TO DEVELOP)
SUCH RETURN.)

At: Phoenix, Arizona

Date: October 27, 2021

Filed: November 1, 2021

REPORTER'S TRANSCRIPT OF PROCEEDINGS

OPEN MEETING AGENDA ITEM NO. 18

VOLUME V
(Pages 863 through 1066)

COASH & COASH, INC.
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Certificate No. 50666

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Phoenix, AZ

1 that I think is very important and helpful for
2 ratepayers, and I think that it's a substantial concern
3 if that is going to have to come offline for a period
4 of time.

5 But I wondered if you could just reiterate,
6 what is your view on what will be the impact on both of
7 those tools if either of these two changes to the rate
8 design are adopted? Is it still your perspective that
9 you would have to wait for a period of time in order to
10 build that customer history in order to have these
11 tools available to customers?

12 MS. LOCKWOOD: Yes, Madam Chair, Commissioner
13 Olson, we would. Any of the rate design changes that
14 are being currently contemplated would make the
15 accuracy of those recommendations -- it would not be
16 accurate and we would be -- it would be inappropriate
17 for us to provide those recommendations without having
18 made the transition to the new rates and built the
19 history for those customers so that we can provide them
20 with a good, accurate recommendation. That's our
21 concern and that's where we are with respect to both
22 the on bill proforma billing, MEP recommendation, as
23 well as the rate comparison tool.

24 COM. OLSON: Thank you, Madam Chair. Thank
25 you, Ms. Lockwood. So how long do you anticipate those

1 being offline if either this amendment or the Kennedy
2 amendment are adopted?

3 MS. LOCKWOOD: Madam Chair, Commissioner
4 Olson, I believe I have this correct that we would have
5 to take it down immediately once the new rates go into
6 effect, and it would not be able to come back up until
7 we have been able to implement the new time of use
8 rates and for at least three months post that for an
9 individual customer.

10 COM. OLSON: Okay. Thank you, Madam Chair.
11 Appreciate that additional detail.

12 CHWM. MÁRQUEZ PETERSON: Thank you.

13 So I would like to make a motion for a verbal
14 amendment to my amendment that would impact the purpose
15 statement to modify that area in which it states, "The
16 amendment makes up the revenue difference resulting
17 from the change to the on-peak time of use period only
18 through on-peak energy charges," and changing that to
19 "25 percent off-peak charges and 75 percent on-peak
20 charges."

21 And then the second area which would change
22 is Page 436 (sic), it's identified on the bottom of the
23 amendment, Line 9, it has new ordering paragraphs.
24 That second paragraph would also reflect making up the
25 revenue difference from 25 percent off-peak time of use

OPEN MEETING AGENDA ITEM



Kristie Cocco

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December 15, 2021

Chairwoman Lea Márquez Peterson
Commissioner Sandra D. Kennedy
Commissioner Justin Olson
Commissioner Anna Tovar
Commissioner Jim O'Connor
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Company (APS or Company)
Application for Approval of Rates, Charges, and Schedules
Decision No. 78317 in Docket No. E-01345A-19-0236

Dear Chairwoman Márquez Peterson and Commissioners:

APS provides the following update on its customer notifications about the new rates and charges implemented on December 1, 2021, the availability of customer rate education tools, and the Company's development of its Customer Education and Outreach Program (CEOP) in compliance with Decision No. 78317 (Nov. 9, 2021) (Decision).

Customer Notifications

APS is introducing changes to customers, including new rate plan names, increased time for customers to pay their bill, rate changes, and plan features, among other items. While the December bill is a primary communication channel, a variety of channels and touchpoints are being used.

Attached is a sample of the materials that APS is providing customers throughout December and into January. Outreach to customers during this time includes:

- General Rate Case Outcome bill inserts for residential and business customers;
- Rate Plan Update bill inserts for residential customers;
- Rate Plan Update emails for residential customers;¹

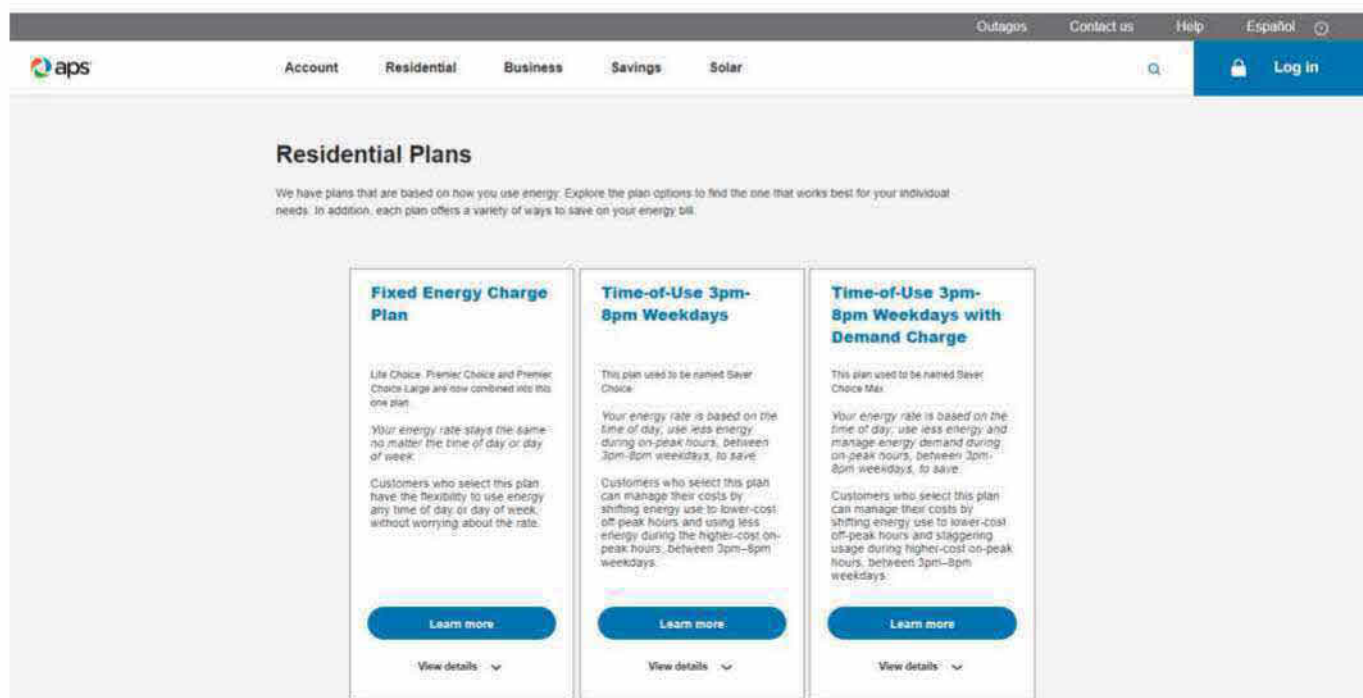
¹ Customers who have a current email address registered with APS will receive the email.

- Rate Plan Update letters to follow these emails, which will serve as an additional residential customer touchpoint for those who receive an email and as a way to reach those who do not have a current email address registered with APS;
- On-bill messages for modified due date and pro forma billing update, and elimination of credit card fee for Energy Support customers; and
- Letters and emails to customers enrolled in Preferred Due Date informing them their billing cycle is changing so they can keep their due date, and letters and emails for AutoPay customers who do not participate in Preferred Due Date informing them their automatic deduction will occur on the new extended due date.

In total, APS's initial communications for the changes that took effect on December 1 will include more than approximately 3.6 million emails, letters and bill onserts distributed to customers in December and early January.

The individualized communications approach extends to the Company's website, aps.com. Through the bill onserts, customers are encouraged to learn more about changes to their individual rate plan and ways to save by visiting plan-specific pages on aps.com. For example, a customer on the *Time-of-Use 3pm-8pm Weekdays with Demand Charge* plan (R-3) is invited to visit aps.com/demandplan, while a customer on a *Fixed Energy Charge* plan (R-XS, R-Basic or R-Basic L) is invited to aps.com/fixedplan. This enables customers to access information about changes to their rate plans more quickly and enjoy a better customer experience online. Plan-specific bill onserts include the aps.com/plans address so customers can explore all of their plan options, which they can also do from either the "Business" or "Residential" items in the top navigation menu when they visit the website.

Figure 1. Residential Plans page on aps.com



For a broad overview of the rate case outcome, customers can learn more at aps.com/updates. This page was posted the day after the Decision was filed and provided a resource for Care Center advisors to offer customers who called seeking more information before they received the outreach described above. (This webpage address is included on the residential and business general rate case outcome bill inserts.) The webpage includes links to information about APS rate plans and bill assistance, general factors that may affect customer bill impacts, and tools customers can use to help them manage their bills and save. Additional screenshots of the webpage aps.com/updates and the rate-tailored webpages are attached.

Customer Education & Outreach Plan (CEOP)

In addition to the immediate customer communications required based on changes that took effect December 1, APS is required to file a copy of the Company's proposed new CEOP for rate plans within 60 days of the Decision's effective date. APS is developing the CEOP in collaboration with interested rate case intervenors and stakeholders as well as with input from its Customer Advisory Board and broader customer research. The Company has engaged IBM to facilitate the stakeholder input process.

Even before the rate case concluded, the Company was working to collect insights to inform customer education. This included Customer Advisory Board sessions on specific topics, additional customer research including a survey for establishing a customer baseline from which to track education progress and results, and Consumer Work Group meetings. Most recently, APS hosted a CEOP development workshop with stakeholders on December 9.

A significant phase of the CEOP will relate to the change in the TOU on-peak window from 3-8 p.m. to 4-7 p.m. weekdays. This phase will benefit from the research the Company is conducting on customer needs and preferences to help them transition, as well as diverse stakeholder viewpoints. The collaborative CEOP development process now underway is important to successfully implement this change. Stakeholders will have an opportunity to review a draft CEOP later in December and provide input leading up to the filing date in January 2022.

Rate Comparison Tool and *Pro Forma* Billing

The Rate Comparison Tool on aps.com and the *pro forma* messaging on each customer's monthly bill are important tools for customers that APS put in place at the direction of the Commission. These tools apply a customer's actual historical energy use to Commission-approved rates to identify a customer's most economical plan (MEP). When a rate design is changed, these tools must be taken down to collect at least three months of customer-specific energy-use and billing data under the new rate design. This customer-specific usage data is then used to calculate what each customer would have paid on each available rate plan and to identify each customer's MEP based on that customer's historical data.

The Decision included various structural rate design changes that could impact what rate is a customer's MEP going forward. These rate design changes included changes to (1) the basic service charge and its allocations,² (2) the demand limiter for customers on the *Time-of-Use 3pm-8pm Weekdays with Demand Charge* plan (R-3),³ and (3) the on-peak period.⁴

² Decision at 438.

³ Decision at 439.

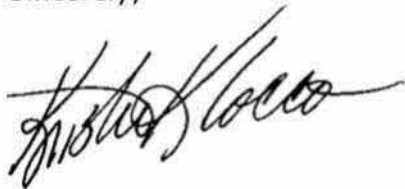
⁴ Decision at 439.

As discussed in the rate case APS exceptions,⁵ the response to Chairwoman Márquez Peterson's September 13, 2021 letter,⁶ and the rate case Open Meetings,⁷ the Rate Comparison Tool and the *pro forma* billing notice will be unavailable to customers for a minimum of 10 months to implement the necessary changes and allow the system to accumulate an additional three-month period, which is necessary to collect the customer-specific energy-use data under the new structural rate design to provide a customer-specific MEP. That 10-month timeframe for these items to be unavailable began on December 1 when new rates and charges took effect.

Beginning on that December 1 date, aps.com's rate comparison tool page displayed a message about the tool being unavailable and why. In addition, Care Center advisors will let customers know of the tool's status if they receive questions. In the meantime, APS streamlined the plan menu, including new names and explanations to make it easier for customers to understand and choose a plan that fits their lifestyle.

The changes from the rate case are many and varied for customers, and APS is dedicated to implementing them smoothly. The Company is providing phased communications informed by customer and stakeholder input, which has included when those communications are of most relevance and value to customers. APS is focused on providing customers with the information and tools they need to help navigate the initial changes resulting from this rate case and developing the Commission-ordered CEOP that will provide the longer-term customer education support.

Sincerely,



Kristie Cocco

KC/bg
Attachments

cc: Docket Control

⁵ APS Exceptions at 56-69.

⁶ <https://docket.images.azcc.gov/E000015845.pdf> at pp. 1, 6 (Sept. 24, 2021).

⁷ Transcript Vol. I, October 4, 2021 Special Open Meeting at 83:15 (Melissa Krueger); Transcript Vol. II, October 5, 2021 Special Open Meeting at 483:13-484:10 (Jeff Guldner); Transcript Vol. V, October 27, 2021 Special Open Meeting at 1010:17-1011:9 and 1027:12-1028:9 (Barbara Lockwood); Transcript Vol. VI, November 2, 2021 Open Meeting at 1075:19-1076:22 (Barbara Lockwood).

ATTACHMENT F



Todd Komaromy
Manager, State Regulatory Affairs

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November 30, 2021

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

RE: Arizona Public Service Company (APS or Company)
Compliance to Decision No. 78317
Docket No. E-01345A-19-0236

In Decision No. 78317 (November 9, 2021), the Commission ordered:

IT IS THEREFORE ORDERED that APS shall file with the Commission, on or before November 30, 2021, revised rate plan tariffs/plans of administration consistent with the resolutions reached in this Decision.

Attached are the Company's revised rate schedules, service schedules, and plans of administration consistent with the above Decision, with all rates effective for service rendered on and after December 1, 2021. Redlined versions of these schedules have been provided to Staff and intervenors at the APS 2019 Rate Case Extranet site.

Please note the special circumstances for the following schedules as required by the Decision:

- **Rate Schedules R-3 Revision 2 (Time-of-Use 4 p.m. to 7 p.m. Weekdays with Demand Charge) and TOU-E Revision 2 (Time-of-Use 4 p.m. to 7 p.m. Weekdays).** These rate schedules are marked as "Pending" in this compliance filing. As discussed by APS in Open Meeting, these schedules will become effective as soon as the required billing system updates and individual metering changes are complete. At that time, APS will notify the Commission and will file a final version of these schedules.
- **Rate Schedule R-TECH (Technology Time-of-Use with Demand).** Decision No. 78317 requires this pilot rate schedule to be modified within 60 days from the date of the Decision to incorporate several identified changes. APS has included the general rate decrease (effective December 1) in the attached compliance rate schedule, and will file a revised version as required for Staff approval or, if required by Staff, Commission approval with the remaining changes as outlined in the Decision.

- **Plan of Administration (POA) for the Lost Fixed Cost Recovery (LFCR) Adjustment Mechanism.** The LFCR POA is not included in this compliance filing. Decision No. 78317 requires APS to revise the LFCR POA to include an earnings test that conforms to specific calculation requirements within the Decision, and to file the revised POA with Staff for approval, or if required by Staff, Commission approval. APS will file this revision with Staff within 60 days after the date of the Decision as required.
- **Service Schedule 4, Totalized Metering of Multiple Service Entrance Sections at a Single Site for Standard Offer and Direct Access Service.** This compliance filing includes Service Schedule 4 without any changes that may be proposed in collaboration with school stakeholders over the next six months as required by the Decision.
- **Plan of Administration for the Solar Communities Program.** APS is required to file a POA for the Solar Communities Program within 60 days after the date of the Decision. That POA will be filed separately from this compliance filing within the timeline required.
- **New Residential EV-Charging Rate Tariff.** APS is also required to file a new tariff for residential customers specifically for electric vehicle charging within 30 days from the date of the Decision for Commission review and approval. That tariff will also be filed separately from this compliance filing within the timeline required.

Please let me know if you have any questions.

Sincerely,

/s/ Todd Komaromy

Todd Komaromy
TK/bgs

Attachments



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 3PM TO 8PM WEEKDAYS
WITH DEMAND CHARGE

AVAILABILITY

This rate schedule is available to all residential Customers, including Partial Requirements Customers with an on-site distributed generation system. This schedule will be replaced with a revised rate schedule reflecting the Arizona Corporation Commission-approved changes in Decision No. 78317. Upon the completion of the required billing system updates and individual customer metering changes, customers will be served under the revised rate schedule. At that time, the on-peak hours of 3 p.m. to 8 p.m. in this rate scheduled will be reduced to 4 p.m. to 7 p.m. Once all customers are being served under the revised rate schedule, this schedule will be canceled.

DESCRIPTION

This rate has three parts: a basic service charge, a demand charge for the highest amount of demand (kW) averaged in a one hour On-Peak period for the month, and an energy charge for the total energy (kWh) used for the entire month. The energy charge will vary by season (summer or winter) and by the time of day that the energy is used (On-Peak, Off-Peak, or Super Off-Peak). The demand charge also varies by season.

TIME PERIODS

The On-Peak time period for residential rate schedules is 3 p.m. to 8 p.m. Monday through Friday. This rate also has a Super Off-Peak period, which is 10 a.m. to 3 p.m. Monday through Friday during the winter season, which is the November through April billing cycle. All other hours are Off-Peak hours.

The following holidays are also included in the Off-Peak hours:

- New Year's Day - January 1*
- Martin Luther King Day - Third Monday in January
- Presidents Day - Third Monday in February
- Cesar Chavez Day - March 31*
- Memorial Day - Last Monday in May
- Independence Day - July 4*
- Labor Day - First Monday in September
- Veterans Day - November 11*
- Thanksgiving - Fourth Thursday in November
- Christmas Eve - December 24**
- Christmas Day - December 25*
- New Year's Eve - December 31**

*If these holidays fall on a Saturday, the preceding Friday will be Off-Peak. If they fall on a Sunday, the following Monday will be Off-Peak.

**The day on which these holidays fall will be Off-Peak days.



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 3PM TO 8PM WEEKDAYS
WITH DEMAND CHARGE

The rate also varies by summer and winter seasons. The summer season is the May through October billing cycles and the winter season is the November through April billing cycles.

CHARGES

This monthly bill will consist of the following charges, plus adjustments:

Bundled Charges

Basic Service Charge:	\$0.400	per day
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	Summer	Winter	
On-Peak Demand Charge:	\$16.870	\$11.842	per kW
On-Peak Energy Charge:	\$0.08615	\$0.06323	per kWh
Off-Peak Energy Charge:	\$0.05146	\$0.05137	per kWh
Super Off-Peak Energy Charge:	\$0.03166		per kWh

Unbundled Components of the Bundled Charges

Bundled Charges consist of the components shown below. These are not additional charges.

Basic Service Charge Components

Customer Accounts Charge:	\$0.068	per day
Metering Charge	\$0.188	per day
Meter Reading Charge	\$0.068	per day
Billing Charge	\$0.076	per day

Demand Charge Components

	Summer	Winter	
Delivery On-Peak kW Charge	\$ 3.872	\$3.872	per kW
Generation On-Peak kW Charge	\$12.998	\$7.970	per kW



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 3PM TO 8PM WEEKDAYS
WITH DEMAND CHARGE

Energy Charge Components

System Benefits Charge:		\$0.00315	per kWh
Transmission Charge:		\$0.01097	per kWh
	Summer	Winter	
Delivery Charge for all kWh:	\$0.01070	\$0.01061	per kWh
Generation On-Peak kWh Charge:	\$0.06133	\$0.03850	per kWh
Generation Off-Peak kWh Charge:	\$0.02664	\$0.02664	per kWh
Generation Super Off-Peak kWh Charge:		\$0.00693	per kWh

The kW used to determine the demand charge above will be the Customer's highest amount of demand (kW) averaged in a one-hour On-Peak period for the billing cycle.

For full requirements Customers, billing demands are limited to a kW no higher than that which would result in a 15% load factor, based on the Customer's kWh usage during the month up to a maximum of three instances per billing year, with only one of the three instances allowed during the summer season. This limitation is not available to Partial Requirements Customers.

ADJUSTMENTS

The bill will include the following adjustments:

1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1.
2. The Power Supply Adjustment charges, Adjustment Schedule PSA-1.
3. The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1.
4. The Environmental Improvement Surcharge, Adjustment Schedule EIS.
5. The Demand Side Management Adjustment Charge, Adjustment Schedule DSMAC-1.
6. The Lost Fixed Cost Recovery adjustment charge, Adjustment Schedule LFCR.
7. The Tax Expense Adjustor Mechanism charge, Adjustment Schedule TEAM.
8. Direct Access customers returning to Standard Offer service may be subject to Returning Customer Direct Access Charge, Adjustment Schedule RCDAC-1.



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 3PM TO 8PM WEEKDAYS
WITH DEMAND CHARGE

9. Any applicable taxes and governmental fees that are assessed on APS's revenues, prices, sales volume, or generation volume.

RATE RIDERS

Eligible rate riders for this rate schedule are:

CPP- RES	Critical Peak Pricing (Residential)
EPR-2	Partial requirements
EPR-6	Partial Requirements – Net Metering (Residential Non-Solar)
RCP	Resource Comparison Proxy
E-3	Limited income discount
E-4	Limited income medical discount
GPS-1, GPS-2, GPS-3	Green Power

SERVICE DETAILS

1. Customers that self-provide some of their electrical requirements from on-site generation will be billed according to one of the Partial Requirements Service rate riders.
2. APS provides electric service under the Company's Service Schedules. These schedules provide details about how the Company serves its Customers, and they have provisions and charges that may affect the Customer's bill (for example, service connection charges).
3. Electric service provided will be single-phase, 60 Hertz at the Company's standard voltages available at the Customer site. Three-phase service is required for motors of an individual rated capacity of 7½ HP or more.
4. Electric service is supplied at a single point of delivery and measured through a single meter.
5. Direct Access Customers who purchase available electric services from a supplier other than APS may take service under this schedule. The bill for these Customers will only include the Unbundled Component charges for Customer Accounts, Delivery, System Benefits, and any applicable Adjustments. If metering and billing services are not available from another supplier, those services will be provided by APS and billed to the Customer at the charges shown above.



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 3PM TO 8PM WEEKDAYS
WITH DEMAND CHARGE

-
6. Load factor is a relationship between how much energy (kWh) a Customer uses over a period of time and how much demand (kW) is used at one time during that same period, expressed in percentage. The Company will calculate the Customer's load factor for purposes of the billing demand limitation described earlier using the following formula:

$$\text{Monthly Load Factor} = \text{Billed kWh} / (\text{Billed kW} * \text{Billing Days} * 24 \text{ hours})$$



**RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 4PM TO 7PM WEEKDAYS
WITH DEMAND CHARGE**

AVAILABILITY

This rate schedule is available to all residential Customers, including Partial Requirements Customers with an on-site distributed generation system. This schedule replaces Time-of-Use 3 p.m. to 8 p.m. Weekdays with Demand Charge in accordance with Arizona Corporation Commission-approved changes in Decision No. 78317. Upon the completion of the required billing system updates and individual customer metering changes, customers will be served under this new rate schedule with on-peak hours of 4 p.m. to 7 p.m.

DESCRIPTION

This rate has three parts: a basic service charge, a demand charge for the highest amount of demand (kW) averaged in a one hour On-Peak period for the month, and an energy charge for the total energy (kWh) used for the entire month. The energy charge will vary by season (summer or winter) and by the time of day that the energy is used (On-Peak, Off-Peak, or Super Off-Peak). The demand charge also varies by season.

TIME PERIODS

The On-Peak time period for residential rate schedules is 4 p.m. to 7 p.m. Monday through Friday. This rate also has a Super Off-Peak period, which is 10 a.m. to 3 p.m. Monday through Friday during the winter season, which is the November through April billing cycles. All other hours are Off-Peak hours.

The following holidays are also included in the Off-Peak hours:

- New Year's Day - January 1*
- Martin Luther King Day - Third Monday in January
- Presidents Day - Third Monday in February
- Cesar Chavez Day - March 31*
- Memorial Day - Last Monday in May
- Independence Day - July 4*
- Labor Day - First Monday in September
- Veterans Day - November 11*
- Thanksgiving - Fourth Thursday in November
- Christmas Eve - December 24**
- Christmas Day - December 25*
- New Year's Eve - December 31**

*If these holidays fall on a Saturday, the preceding Friday will be Off-Peak. If they fall on a Sunday, the following Monday will be Off-Peak.



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 4PM TO 7PM WEEKDAYS
WITH DEMAND CHARGE

**The day on which these holidays fall will be Off-Peak days.

The rate also varies by summer and winter seasons. The summer season is the May through October billing cycles and the winter season is the November through April billing cycles.

CHARGES

This monthly bill will consist of the following charges, plus adjustments:

Bundled Charges

Basic Service Charge:	\$ 0.400	per day
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	Summer	Winter	
On-Peak Demand Charge:	\$ 16.875	\$ 11.845	per kW
On-Peak Energy Charge:	\$ 0.12414	\$ 0.08711	per kWh
Off-Peak Energy Charge:	\$ 0.05276	\$ 0.05267	per kWh
Super Off-Peak Energy Charge:		\$ 0.03166	per kWh

Unbundled Components of the Bundled Charges

Bundled Charges consist of the components shown below. These are not additional charges.

Basic Service Charge Components

Customer Accounts Charge:	\$ 0.068	per day
Metering Charge	\$ 0.188	per day
Meter Reading Charge	\$ 0.068	per day
Billing Charge	\$ 0.076	per day

Demand Charge Components

	Summer	Winter	
Delivery On-Peak kW Charge	\$ 3.872	\$ 3.872	per kW
Generation On-Peak kW Charge	\$ 13.003	\$ 7.973	per kW



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 4PM TO 7PM WEEKDAYS
WITH DEMAND CHARGE

Energy Charge Components

System Benefits Charge:	\$ 0.00315	per kWh
Transmission Charge:	\$ 0.01097	per kWh

	Summer	Winter	
Delivery Charge for all kWh:	\$ 0.01070	\$ 0.01061	per kWh
Generation On-Peak kWh Charge:	\$ 0.09932	\$ 0.06238	per kWh
Generation Off-Peak kWh Charge:	\$ 0.02794	\$ 0.02794	per kWh
Generation Super Off-Peak kWh Charge:		\$ 0.00693	per kWh

The kW used to determine the demand charge above will be the Customer's highest amount of demand (kW) averaged in a one-hour On-Peak period for the billing cycle.

For full requirements Customers, billing demands are limited to a kW no higher than that which would result in a 15% load factor, based on the Customer's kWh usage during the month up to a maximum of three instances per billing year, with only one of the three instances allowed during the summer season. This limitation is not available to Partial Requirements Customers.

ADJUSTMENTS

The bill will include the following adjustments:

1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1.
2. The Power Supply Adjustment charges, Adjustment Schedule PSA-1.
3. The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1.
4. The Environmental Improvement Surcharge, Adjustment Schedule EIS.
5. The Demand Side Management Adjustment Charge, Adjustment Schedule DSMAC-1.
6. The Lost Fixed Cost Recovery adjustment charge, Adjustment Schedule LFCR.
7. The Tax Expense Adjustor Mechanism charge, Adjustment Schedule TEAM.



RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 4PM TO 7PM WEEKDAYS
WITH DEMAND CHARGE

8. Direct Access customers returning to Standard Offer service may be subject to Returning Customer Direct Access Charge, Adjustment Schedule RCDAC-1.
9. Any applicable taxes and governmental fees that are assessed on APS's revenues, prices, sales volume, or generation volume.

RATE RIDERS

Eligible rate riders for this rate schedule are:

CPP- RES	Critical Peak Pricing (Residential)
EPR-2	Partial requirements
EPR-6	Partial Requirements – Net Metering (Residential Non-Solar)
RCP	Resource Comparison Proxy
E-3	Limited income discount
E-4	Limited income medical discount
GPS-1, GPS-2, GPS-3	Green Power

SERVICE DETAILS

1. Customers that self-provide some of their electrical requirements from on-site generation will be billed according to one of the Partial Requirements Service rate riders.
2. APS provides electric service under the Company's Service Schedules. These schedules provide details about how the Company serves its Customers, and they have provisions and charges that may affect the Customer's bill (for example, service connection charges).
3. Electric service provided will be single-phase, 60 Hertz at the Company's standard voltages available at the Customer site. Three-phase service is required for motors of an individual rated capacity of 7½ HP or more.
4. Electric service is supplied at a single point of delivery and measured through a single meter.
5. Direct Access Customers who purchase available electric services from a supplier other than APS may take service under this schedule. The bill for these Customers will only include the Unbundled Component charges for Customer Accounts, Delivery, System



**RATE SCHEDULE R-3
RESIDENTIAL SERVICE
TIME-OF-USE 4PM TO 7PM WEEKDAYS
WITH DEMAND CHARGE**

Benefits, and any applicable Adjustments. If metering and billing services are not available from another supplier, those services will be provided by APS and billed to the Customer at the charges shown above.

6. Load factor is a relationship between how much energy (kWh) a Customer uses over a period of time and how much demand (kW) is used at one time during that same period, expressed in percentage. The Company will calculate the Customer's load factor for purposes of the billing demand limitation described earlier using the following formula:

$$\text{Monthly Load Factor} = \text{Billed kWh} / (\text{Billed kW} * \text{Billing Days} * 24 \text{ hours})$$



RATE SCHEDULE TOU-E RESIDENTIAL TIME-OF-USE SERVICE TIME-OF-USE 3PM-8PM WEEKDAYS

AVAILABILITY

This rate schedule is available to all residential Customers, including Partial Requirements Customers with an on-site distributed generation system. This schedule will be replaced with a revised rate schedule reflecting the Arizona Corporation Commission-approved changes in Decision No. 78317. Upon the completion of the required billing system updates and individual customer metering changes, customers will be served under the revised rate schedule. At that time, the on-peak hours of 3 p.m. to 8 p.m. in this rate schedule will be reduced to 4 p.m. to 7 p.m. Once all customers are being served under the revised rate schedule, this schedule will be canceled.

DESCRIPTION

This rate has two parts: a basic service charge and an energy charge. The energy charge will vary by season (summer or winter) and by the time of day that the energy is used (On-Peak, Off-Peak, or Super Off-Peak). This rate does not include a demand charge.

TIME PERIODS

The On-Peak time period for residential rate schedules is 3 p.m. to 8 p.m. Monday through Friday year-round. This rate also has a Super Off-Peak period, which is 10 a.m. to 3 p.m. Monday through Friday during the winter season, which is the billing cycles of November through April. All other hours are Off-Peak hours.

The following holidays are also included in the Off-Peak hours:

- New Year's Day - January 1*
- Martin Luther King Day - Third Monday in January
- Presidents Day - Third Monday in February
- Cesar Chavez Day - March 31*
- Memorial Day - Last Monday in May
- Independence Day - July 4*
- Labor Day - First Monday in September
- Veterans Day - November 11*
- Thanksgiving - Fourth Thursday in November
- Christmas Eve - December 24**
- Christmas Day - December 25*
- New Year's Eve - December 31**

*If these holidays fall on a Saturday, the preceding Friday will be Off-Peak. If they fall on a Sunday, the following Monday will be Off-Peak.

**The day on which these holidays fall will be Off-Peak days.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 3PM-8PM WEEKDAYS**

The rate also varies by summer and winter seasons. The summer season is the May through October billing cycles, and the winter season is the November through April billing cycles.

CHARGES

The monthly bill will consist of the following charges, plus adjustments:

Bundled Charges

Basic Service Charge	\$ 0.400	per day
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	Summer	Winter	
On-Peak Energy Charge	\$ 0.23593	\$ 0.22386	per kWh
Off-Peak Energy Charge	\$ 0.10532	\$ 0.10533	per kWh
Super Off-Peak Energy Charge		\$ 0.03166	per kWh

Unbundled Components of the Bundled Charges

Bundled Charges consist of the components shown below. These are not additional charges.

Basic Service Charge Components

Customer Accounts Charge	\$ 0.068	per day
Metering Charge	\$ 0.188	per day
Meter Reading Charge	\$ 0.068	per day
Billing Charge	\$ 0.076	per day



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 3PM-8PM WEEKDAYS**

Energy Charge Components

System Benefits Charge		\$ 0.00315	per kWh
Transmission Charge		\$ 0.01097	per kWh
	Summer	Winter	
Delivery Charge On-Peak	\$ 0.02988	\$ 0.02988	per kWh
Delivery Charge Off-Peak	\$ 0.02988	\$ 0.02988	per kWh
Delivery Charge Super Off-Peak		\$ 0.01061	per kWh
Generation On-Peak Charge	\$ 0.19193	\$ 0.17986	per kWh
Generation Off-Peak Charge	\$ 0.06132	\$ 0.06133	per kWh
Generation Super Off-Peak Charge		\$ 0.00693	per kWh

CHARGE FOR ON-SITE DISTRIBUTED GENERATION CUSTOMERS

The monthly bill for Customers on this rate schedule that have an on-site distributed generation system will also include a Grid Access Charge. This charge will apply to the nameplate kW-dc power rating of the Customer's distributed generation facility:

Grid Access Charge	\$ 0.00	per kW-dc of generation
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ADJUSTMENTS

The bill will include the following adjustments:

1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1.
2. The Power Supply Adjustment charge, Adjustment Schedule PSA-1.
3. The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1.
4. The Environmental Improvement Surcharge, Adjustment Schedule EIS.
5. The Demand Side Management Adjustment Charge, Adjustment Schedule DSMAC-1.
6. The Lost Fixed Cost Recovery adjustment charge, Adjustment Schedule LFCR.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 3PM-8PM WEEKDAYS**

7. The Tax Expense Adjustor Mechanism charge, Adjustment Schedule TEAM.
8. Direct Access Customers returning to Standard Offer service may be subject to a Returning Customer Direct Access Charge, Adjustment Schedule RCDAC-1.
9. Any applicable taxes and governmental fees that are assessed on APS's revenues, prices, sales volume, or generation volume.

RATE RIDERS

Eligible rate riders for this rate schedule are:

CPP (RES)	Critical Peak Pricing (Residential)
EPR-2	Partial Requirements
EPR-6	Partial Requirements – Net Metering (Residential Non-Solar)
RCP	Resource Comparison Proxy
E-3	Limited income discount
E-4	Limited income medical discount
GPS-1, GPS-2, GPS-3	Green Power

SERVICE DETAILS

1. Customers that self-provide some of their electrical requirements from on-site generation will be billed according to one of the Partial Requirements Service rate riders.
2. APS provides electric service under the Company's Service Schedules. These schedules provide details about how the Company serves its Customers, and they have provisions and charges that may affect the Customer's bill (for example, service connection charges).
3. Electric service provided will be single-phase, 60 Hertz at the Company's standard voltages available at the Customer site. Three-phase service is required for motors of an individual rated capacity of 7½ HP or more.
4. Electric service is supplied at a single point of delivery and measured through a single meter.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 3PM-8PM WEEKDAYS**

5. Direct Access Customers who purchase available electric services from a supplier other than APS may take service under this schedule. The bill for these Customers will only include the Unbundled Component charges for Customer Accounts, Delivery, System Benefits, and any applicable Adjustments. If metering and billing services are not available from another supplier, those services will be provided by APS and billed to the Customer at the charges shown above.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 4PM-7PM WEEKDAYS**

AVAILABILITY

This rate schedule is available to all residential Customers, including Partial Requirements Customers with an on-site distributed generation system. This schedule replaces Time-Of-Use 3 p.m. to 8 p.m. Weekdays in accordance with Arizona Corporation Commission-approved changes in Decision No. 78317. Upon the completion of the required billing system updates and individual customer metering changes, customers will be served under this new rate schedule with on-peak hours of 4 p.m. to 7 p.m.

DESCRIPTION

This rate has two parts: a basic service charge and an energy charge. The energy charge will vary by season (summer or winter) and by the time of day that the energy is used (On-Peak, Off-Peak, or Super Off-Peak). This rate does not include a demand charge.

TIME PERIODS

The On-Peak time period for residential rate schedules is 4 p.m. to 7 p.m. Monday through Friday year-round. This rate also has a Super Off-Peak period, which is 10 a.m. to 3 p.m. Monday through Friday during the winter season, which is the billing cycles of November through April. All other hours are Off-Peak hours.

The following holidays are also included in the Off-Peak hours:

- New Year's Day - January 1*
- Martin Luther King Day - Third Monday in January
- Presidents Day - Third Monday in February
- Cesar Chavez Day - March 31*
- Memorial Day - Last Monday in May
- Independence Day - July 4*
- Labor Day - First Monday in September
- Veterans Day - November 11*
- Thanksgiving - Fourth Thursday in November
- Christmas Eve - December 24**
- Christmas Day - December 25*
- New Year's Eve - December 31**

*If these holidays fall on a Saturday, the preceding Friday will be Off-Peak. If they fall on a Sunday, the following Monday will be Off-Peak.

**The day on which these holidays fall will be Off-Peak days.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 4PM-7PM WEEKDAYS**

The rate also varies by summer and winter seasons. The summer season is the May through October billing cycles, and the winter season is the November through April billing cycles.

CHARGES

The monthly bill will consist of the following charges, plus adjustments:

Bundled Charges

Basic Service Charge		\$ 0.400	per day
	Summer	Winter	
On-Peak Energy Charge	\$ 0.29780	\$ 0.28185	per kWh
Off-Peak Energy Charge	\$ 0.10789	\$ 0.10790	per kWh
Super Off-Peak Energy Charge		\$ 0.03166	per kWh

Unbundled Components of the Bundled Charges

Bundled Charges consist of the components shown below. These are not additional charges.

Basic Service Charge Components

Customer Accounts Charge	\$ 0.068	per day
Metering Charge	\$ 0.188	per day
Meter Reading Charge	\$ 0.068	per day
Billing Charge	\$ 0.076	per day

Energy Charge Components

System Benefits Charge		\$ 0.00315	per kWh
Transmission Charge		\$ 0.01097	per kWh
	Summer	Winter	
Delivery Charge On-Peak	\$ 0.02988	\$ 0.02988	per kWh
Delivery Charge Off-Peak	\$ 0.02988	\$ 0.02988	per kWh
Delivery Charge Super Off-Peak		\$ 0.01061	per kWh



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 4PM-7PM WEEKDAYS**

Generation On-Peak Charge	\$ 0.25380	\$ 0.23785	per kWh
Generation Off-Peak Charge	\$ 0.06389	\$ 0.06390	per kWh
Generation Super Off-Peak Charge		\$ 0.00693	per kWh

CHARGE FOR ON-SITE DISTRIBUTED GENERATION CUSTOMERS

The monthly bill for Customers on this rate schedule that have an on-site distributed generation system will also include a Grid Access Charge. This charge will apply to the nameplate kW-dc power rating of the Customer's distributed generation facility:

Grid Access Charge	\$ 0.00	per kW-dc of generation
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ADJUSTMENTS

The bill will include the following adjustments:

1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1.
2. The Power Supply Adjustment charge, Adjustment Schedule PSA-1.
3. The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1.
4. The Environmental Improvement Surcharge, Adjustment Schedule EIS.
5. The Demand Side Management Adjustment Charge, Adjustment Schedule DSMAC-1.
6. The Lost Fixed Cost Recovery adjustment charge, Adjustment Schedule LFCR.
7. The Tax Expense Adjustor Mechanism charge, Adjustment Schedule TEAM.
8. Direct Access Customers returning to Standard Offer service may be subject to a Returning Customer Direct Access Charge, Adjustment Schedule RCDAC-1.
9. Any applicable taxes and governmental fees that are assessed on APS's revenues, prices, sales volume, or generation volume.



**RATE SCHEDULE TOU-E
RESIDENTIAL TIME-OF-USE SERVICE
TIME-OF-USE 4PM-7PM WEEKDAYS**

RATE RIDERS

Eligible rate riders for this rate schedule are:

CPP (RES)	Critical Peak Pricing (Residential)
EPR-2	Partial Requirements
EPR-6	Partial Requirements – Net Metering (Residential Non-Solar)
RCP	Resource Comparison Proxy
E-3	Limited income discount
E-4	Limited income medical discount
GPS-1, GPS-2, GPS-3	Green Power

SERVICE DETAILS

1. Customers that self-provide some of their electrical requirements from on-site generation will be billed according to one of the Partial Requirements Service rate riders.
2. APS provides electric service under the Company's Service Schedules. These schedules provide details about how the Company serves its Customers, and they have provisions and charges that may affect the Customer's bill (for example, service connection charges).
3. Electric service provided will be single-phase, 60 Hertz at the Company's standard voltages available at the Customer site. Three-phase service is required for motors of an individual rated capacity of 7½ HP or more.
4. Electric service is supplied at a single point of delivery and measured through a single meter.
5. Direct Access Customers who purchase available electric services from a supplier other than APS may take service under this schedule. The bill for these Customers will only include the Unbundled Component charges for Customer Accounts, Delivery, System Benefits, and any applicable Adjustments. If metering and billing services are not available from another supplier, those services will be provided by APS and billed to the Customer at the charges shown above.

ATTACHMENT G

Arizona Public Service Company
Bill Impacts - Test Year Ending June 2019
3-8 p.m. Transition Rates vs 4-7 p.m. Rates (TOU-E and R-3)

Base Rate Impact					
Base Rate % Impact	TOU-E and R-3				
	Revenue Impact	# of Customers	% of Customers		
-50.0% to -45.01%	\$ -	-	0.00%	262,768 customers experience bill decreases of (\$4.37 million) annually	
-45.0% to -40.01%	\$ -	-	0.00%		
-40.0% to -35.01%	\$ -	-	0.00%		
-35.0% to -30.01%	\$ (1,520)	2	0.00%		
-30.0% to -25.01%	\$ (7,695)	12	0.00%		
-25.0% to -20.01%	\$ (27,273)	51	0.01%		
-20.0% to -15.01%	\$ (42,688)	127	0.02%		
-15.0% to -10.01%	\$ (160,945)	695	0.13%		
-10.0% to -9.01%	\$ (72,490)	384	0.07%		
-9.0% to -8.01%	\$ (98,955)	598	0.11%		
-8.0% to -7.01%	\$ (122,631)	849	0.16%		
-7.0% to -6.01%	\$ (173,454)	1,329	0.25%		
-6.0% to -5.01%	\$ (229,389)	2,032	0.38%		
-5.0% to -4.01%	\$ (316,008)	3,426	0.64%		
-4.0% to -3.01%	\$ (417,697)	5,686	1.06%		
-3.0% to -2.01%	\$ (543,697)	10,340	1.93%		
-2.0% to -1.01%	\$ (760,856)	25,497	4.75%		
-1.0% to 0.0%	\$ (1,392,546)	211,740	39.46%		
0.01% to 1.0%	\$ 1,398,955	199,274	37.13%	273,894 customers experience bill increases of \$4.37 million annually	
1.01% to 2.0%	\$ 1,628,779	51,704	9.63%		
2.01% to 3.0%	\$ 1,263,972	21,932	4.09%		
3.01% to 4.0%	\$ 44,148	548	0.10%		
4.01% to 5.0%	\$ 6,182	134	0.02%		
5.01% to 6.0%	\$ 3,763	65	0.01%		
6.01% to 7.0%	\$ 3,947	46	0.01%		
7.01% to 8.0%	\$ 2,545	38	0.01%		
8.01% to 9.0%	\$ 2,658	39	0.01%		
9.01% to 10.0%	\$ 1,648	22	0.00%		
10.01% to 15.0%	\$ 4,719	50	0.01%		
15.01% to 20.0%	\$ 2,346	19	0.00%		
20.01% to 25.0%	\$ 1,588	10	0.00%		
25.01% to 30.0%	\$ 858	5	0.00%		
30.01% to 35.0%	\$ 394	3	0.00%		
35.01% to 40.0%	\$ 333	2	0.00%		
40.01% to 45.0%	\$ -	-	0.00%		
45.01% to 50.0%	\$ 1,022	3	0.00%		
> 50.0%	\$ -	-	0.00%		
Total	\$ 17	536,662	100.00%		
Avg Impact - Base	0.00%				
Target	0.00%				

NOTE: This bin analysis compares the 3-8 p.m. transition rates implemented on 12/1/2021 to the 4-7 p.m. rates that will be implemented upon successful completion of meter reprogramming and system integration, both of which were designed to achieve the same revenue requirement approved in Decision No. 78317. These results are based on Test Year billing determinants and TOU-E and R-3 rate adoption levels.